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MISPRICED PROCEDURES

APPENDIX TO FINAL REPORT

September 1988

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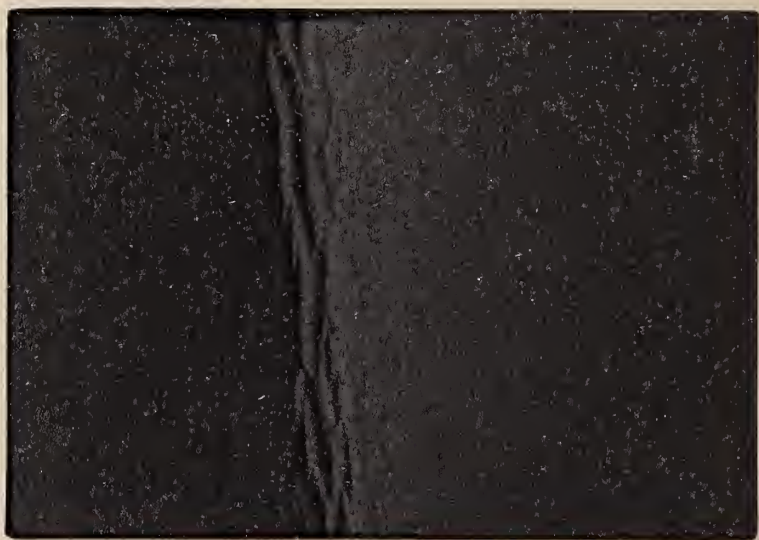
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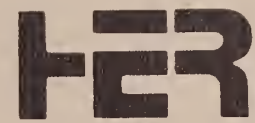
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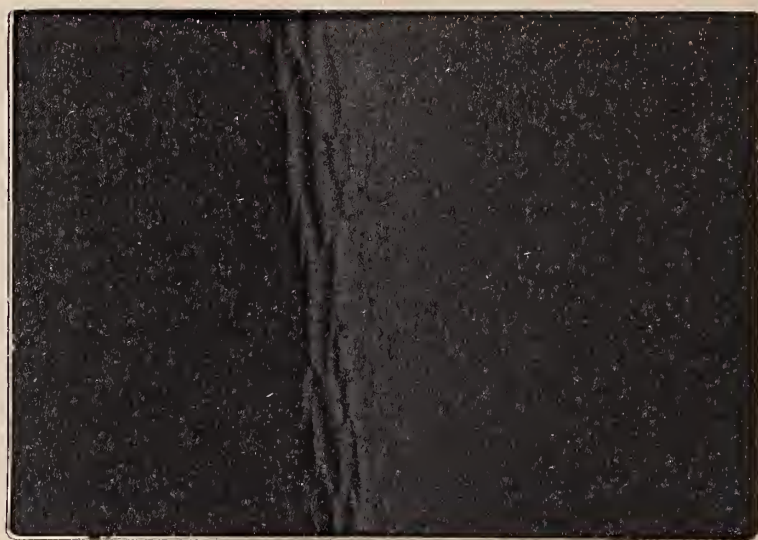




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## APPENDIX A

## FREQUENCY OF PROCEDURE PERFORMANCE

<u>TABLE</u>	<u>SPECIALTY</u>
A-1	Orthopedic Surgeons
A-2	Urologists
A-3	Cardiovascular/Thoracic Surgeons
A-4	General Surgeons
A-5	Ophthalmologists
A-6	Obstetricians/Gynecologists
A-7	Neurological Surgeons
A-8	Plastic Surgeons
A-9	Ears, Nose and Throat Surgeons
A-10	General Practitioners, Family Practitioners, and Internists
A-11	Cardiologists
A-12	Gastroenterologists
A-13	Neurologists
A-14	Dermatologists



TABLE A-1

## FREQUENCY OF PROCEDURE PERFORMANCE FOR ORTHOPEDIC SURGEONS

<u>Procedure</u>	<u>N</u>	<u>PERCENT OF ORTHOPEDIC SURGEONS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	104	94.2	2.9	0.0	1.0	1.9
Initial comprehensive <u>hospital</u> visit (with history and examination) for a new or established patient (CPT-4 90220)	104	76.9	10.6	6.7	2.9	2.9
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	104	11.5	2.9	6.7	6.7	72.1
Interpretation and report (only) for a spine X-ray--lumbosacral, antero- posterior, and lateral (CPT-4 72100)	104	77.9	3.8	2.9	3.8	11.5
Interpretation and report (only) for a complete hip X-ray--unilateral, with a minimum of two views (CPT-4 73510)	104	76.9	4.8	1.9	3.8	12.5
Simple hip arthroplasty (total hip replacement) (CPT-4 27130)	104	22.1	40.4	18.3	10.6	8.7
Secondary hip revision (CPT-4 27135)	103	3.9	12.6	41.7	19.4	22.3
Total knee replacement (CPT-4 27447)	104	15.4	35.6	27.9	8.7	12.5
Femoral fracture with internal fixation (CPT-4 27236)	103	10.7	37.9	33.0	9.7	8.7
Intertrochanteric or pertrochanteric femur fracture with internal fixation (CPT-4 27244)	103	25.2	47.6	11.7	7.8	7.8
Hemilaminectomy for excision of a herniated disk and/or de- compression of a nerve root-- lumbar unilateral (CPT-4 63030)	102	10.8	24.5	15.7	19.6	29.4
Major joint arthrocentesis (CPT-4 20610)	101	45.5	28.7	12.9	6.9	5.9

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-2

## FREQUENCY OF PROCEDURE PERFORMANCE FOR UROLOGISTS

Procedure	N	PERCENT OF UROLOGISTS PERFORMING THE PROCEDURE				
		Weekly	Monthly	At least Once Annually	Less than Annually	Never
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	126	89.6	2.4	3.2	2.4	2.4
Initial comprehensive <u>hospital</u> visit (with history and examination) for a new or established patient (CPT-4 90220)	125	84.8	7.2	0.8	0.8	6.4
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	125	10.4	2.4	4.8	8.8	73.6
Intravenous urography (pyelography) (CPT-4 74400)	125	36.8	1.6	6.4	13.6	41.6
Transurethral resection of the prostate (TURP) (CPT-4 52601)	125	84.0	15.2	0	0	0.8
Suprapubic prostatectomy (CPT-4 55821)	124	5.6	16.9	46.0	20.2	11.3
Lithotripsy (percutaneous nephros- tolithotomy or pyelostolithotomy, up to 2 cm) (CPT-4 50080)	125	14.4	20.8	32.8	8.0	24.0
Cystourethroscopy (separate procedure) (CPT-4 52000)	124	93.5	4.0	0.8	0	1.6
Cystourethroscopy with ureteral catheterization (CPT-4 52005)	124	57.3	37.1	4.0	0	1.6
Cystourethroscopy with fulguration (including cryosurgery) and/or resection of small bladder tumor(s) (0.5 to 2 cm) (CPT-4 52234)	124	35.5	51.6	10.5	0.8	1.6
Dilation of urethra for a female patient (CPT-4 53660)	124	68.5	12.1	9.7	4.0	5.6

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-3

## FREQUENCY OF PROCEDURE PERFORMANCE FOR CARDIOVASCULAR/THORACIC SURGEONS

Procedure	N	Weekly	Monthly	PERCENT OF CARDIOVASCULAR/THORACIC SURGEONS PERFORMING THE PROCEDURE		
				At least Once Annually	Less than Annually	Never
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	25	60.0	16.0	4.0	4.0	16.0
Initial comprehensive <u>hospital</u> visit (with history and examination) for a new or established patient (CPT-4 90220)	25	88.0	4.0	0	0	8.0
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	25	36.0	8.0	4.0	4.0	48.0
Permanent pacemaker insertion--single chamber, ventricular (CPT-4 33207)	25	20.0	28.0	20.0	8.0	24.0
Permanent pacemaker insertion--dual chamber, AV sequential (CPT-4 33208)	25	4.0	20.0	20.0	16.0	40.0
Carotid thromboendarterectomy (CPT-4 35301)	25	16.0	39.0	4.0	8.0	36.0
3 artery CABG (coronary artery bypass graft) (CPT-4 33512)	25	32.0	0	4.0	8.0	56.0
4 artery CABG (coronary artery bypass graft) (CPT-4 33513)	24	16.7	8.3	4.2	12.5	58.3
Aortic valve replacement (CPT-4 33405)	25	4.0	24.0	8.0	16.0	48.0
Lung lobectomy (CPT-4 32480)	25	12.0	40.0	12.0	4.0	32.0
Swan-Ganz catheterization (CPT-4 93503)	25	4.0	20.0	24.0	20.0	32.0
Left heart catheterization, with selective coronary angiography and left ventricular angiography (CPT-4 93547)	25	0	0	0	8.0	92.0
Combined right and left heart catheterization with selective coronary angiography and left ventricular angiography (CPT-4 93549)	25	0	0	0	8.0	92.0
Insertion of an intra-aortic balloon catheter (CPT-4 93535)	25	8.0	8.0	16.0	12.0	56.0

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.





TABLE A-4

## FREQUENCY OF PROCEDURE PERFORMANCE FOR GENERAL SURGEONS (GROUP 1 AND GROUP 2)

		PERCENT OF GENERAL SURGEONS PERFORMING THE PROCEDURE				
	<u>N</u>	<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
<u>PROCEDURES FOR BOTH GROUPS</u>						
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	177	83.6%	9.6%	2.3%	1.7%	2.8%
Initial comprehensive <u>hospital</u> visit, with history and examination for a new or established patient (CPT-4 90220)	177	85.3	9.6	1.7	1.1	2.3
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	179	29.1	7.3	1.1	11.2	51.4
Permanent pacemaker insertion--dual chamber, AV sequential (CPT-4 33208)	179	1.1	3.4	6.1	22.9	66.5
Inguinal hernia repair (CPT-4 49505)	179	55.9	34.6	6.1	1.1	2.2
Carotid thromboendarterectomy (CPT-4 35301)	176	1.7	10.8	10.2	21.0	56.3
Partial colectomy (CPT-4 44140)	176	13.1	63.1	18.2	4.0	1.7
Modified radical mastectomy (CPT-4 19240)	176	11.4	56.3	23.9	5.1	3.4
Cholecystectomy with exploration of common duct (CPT-4 47610)	175	8.0	41.1	41.7	5.1	4.0
<u>PROCEDURES FOR GROUP 2 ONLY</u>						
Cholecystectomy without common duct exploration (CPT-4 47600)	85	47.1	37.6	14.1	1.2	0.0
Excision of benign lesion on trunk, arms, or legs--1.0 to 2.0 cm (CPT-4 11402)	83	69.9	16.9	7.2	4.8	1.2
Excision of benign lesion on trunk, arms, or legs--3.0 to 2.0 cm (CPT-4 11404)	82	36.6	29.3	25.6	7.3	1.2
Diagnostic, complex upper GI endoscopy (including esophagus, stomach, and either the duodenum and/or the jejunum) (CPT-4 43235)	82	13.4	8.5	7.3	17.1	53.7
<u>PROCEDURES FOR GROUP 1 ONLY</u>						
Total abdominal hysterectomy (CPT-4 58150)	90	6.7	12.2	16.7	24.4	40.0
Diagnostic, fiberoptic colonoscopy, 25 cm to splenic flexure (CPT-4 45360)	90	21.1	12.2	7.8	6.7	52.2
Diagnostic, flexible fiberoptic sigmoidoscopy (CPT-4 45330)	90	24.4	16.7	4.4	6.7	47.8
Diagnostic, fiberoptic colonoscopy, beyond the splenic flexure (CPT-4 45378)	90	13.3	14.4	4.4	6.7	61.1

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-5

## FREQUENCY OF PROCEDURE PERFORMANCE FOR OPHTHALMOLOGISTS

PROCEDURES	N	PERCENT OF OPHTHALMOLOGISTS PERFORMING THE PROCEDURE				
		Weekly	Monthly	At least Once Annually	Less than Annually	Never
Initial comprehensive office visit for a new patient (CPT-4 92004)	104	98.1%	0.0%	1.0%	1.0%	0.0%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	104	24.0	26.0	28.8	5.8	15.4
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	104	2.9	1.0	5.8	11.5	78.8
Intracapsular lens extraction (CPT-4 66920)	102	13.7	3.9	22.5	35.3	24.5
Extracapsular lens extraction without IOL implant (CPT-4 66940)	102	5.9	12.7	39.2	21.6	20.6
Extracapsular lens extraction with IOL implant (CPT-4 66984)	103	59.2	8.7	4.9	12.6	14.6
Insertion of an IOL subsequent to extraction (CPT-4 66985)	103	5.8	26.2	38.8	14.6	14.6
Fistulization of sclera (CPT-4 66170)	101	3.0	8.9	42.6	19.8	25.7
Vitrectomy, mechanical (CPT-4 67036)	100	2.0	14.0	24.0	17.0	43.0
Scleral buckling (CPT-4 67107)	100	3.0	3.0	6.0	31.0	57.0
Laser photocoagulation (CPT-4 67226)	101	23.8	18.8	13.9	12.9	30.7
Ophthalmic biometry by ultrasound echography, A-mode (CPT-4 76516)	102	53.9	4.9	2.0	8.8	30.4
Ophthalmic biometry by ultrasound echography; by B-scan and/or real time (CPT-4 76517)	102	11.8	9.8	9.8	15.7	52.9
Serial tonometry with medical diagnostic evaluation (CPT-4 92100)	100	24.0	8.0	12.0	17.0	39.0

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-6

## FREQUENCY OF PROCEDURE PERFORMANCE FOR OBSTETRICIANS/GYNECOLOGISTS

<u>PROCEDURES</u>	<u>N</u>	<u>PERCENT OF OBSTETRICIANS/GYNECOLOGISTS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive office visit for a new patient (CPT-4 90020)	205	95.1%	2.4%	1.0%	1.0%	0.5%
Initial comprehensive hospital visit (with history and examination for a new or established patient (CPT-4 90220)	204	51.5	29.4	10.8	3.4	4.9
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	205	5.9	3.9	4.4	13.2	72.7
Interpretation and report (only) for an abdominal ultrasound (CPT-4 76700)	205	28.8	11.2	1.5	8.8	49.8
Total abdominal hysterectomy (CPT-4 58150)	204	36.8	48.5	10.8	2.0	2.0
Vaginal hysterectomy (CPT-4 58260)	204	15.7	39.7	31.4	8.8	4.4
Vaginal hysterectomy with plastic repair (CPT-4 58265)	204	10.3	37.3	37.7	9.3	5.4
Diagnostic D & C (CPT-4 58120)	204	60.8	29.4	6.9	2.5	0.5
Endometrial biopsy (CPT-4 58100)	203	37.4	34.0	16.3	3.9	8.4
Biopsy of cervix (CPT-4 57520)	202	48.5	28.2	16.3	4.0	3.0

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-7

## FREQUENCY OF PROCEDURE PERFORMANCE FOR NEUROLOGICAL SURGEONS

<u>PROCEDURES</u>	<u>N</u>	<u>PERCENT OF NEUROLOGICAL SURGEONS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive office visit for a new patient (CPT-4 90020)	24	95.8%	0.0%	0.0%	0.0%	4.2%
Initial comprehensive hospital visit (with history and examination for a new or established patient (CPT-4 90220)	24	100.0	0.0	0.0	0.0	0.0
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	24	16.7	4.2	0.0	4.2	75.0
Interpretation and report (only) for a spine X-ray--lumbosacral, anteroposterior and lateral (CPT-4 72100)	24	58.3	4.2	0.0	0.0	37.5
Interpretation and report (only) of a complete skull X-ray with a minimum of four views (CPT-4 70260)	24	20.8	25.0	8.3	0.0	45.8
Interpretation and report (only) for an EEG-- awake, drowsy and asleep (CPT-4 95819)	24	8.3	0.0	0.0	0.0	91.7
Carotid thromboendarterectomy (CPT-4 35301)	24	12.5	20.8	4.2	12.5	50.0
Hemilaminectomy for excision of a herniated disk and/or decompression of a nerve root--lumbar unilateral (CPT-4 63030)	24	87.5	8.3	0.0	0.0	4.2
Lumbar laminectomy for decompression of the spinal cord (CPT-4 63005)	23	43.5	34.8	17.4	0.0	4.3
Craniectomy or craniotomy for evacuation of a hematoma (CPT-4 61310)	24	12.5	79.2	4.2	0.0	4.2
Craniectomy for excision of a brain tumor-- supratentorial (CPT-4 615100)	24	29.2	58.3	8.3	0.0	4.2
Diagnostic lumbar puncture (CPT-4 62270)	24	25.0	37.5	25.0	4.2	8.3

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.





TABLE A-8

## FREQUENCY OF PROCEDURE PERFORMANCE FOR PLASTIC SURGEONS

PROCEDURES	N	PERCENT OF PLASTIC SURGEONS PERFORMING THE PROCEDURE				
		Weekly	Monthly	At least Once Annually	Less than Annually	Never
Initial comprehensive office visit for a new patient (CPT-4 90020)	34	94.1%	0.0%	2.9%	0.0%	2.9%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	34	70.6	8.8	8.8	8.8	2.9
Intermediate follow-up office visit for an established patient (CPT-4 90060)	34	94.1	0.0	0.0	2.9	2.9
Initial comprehensive consultation (CPT-4 90620)	34	82.4	5.9	2.9	2.9	5.9
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	34	2.9	2.9	0.0	11.8	82.4
Biopsy of skin, or subcutaneous tissue and/or mucous membrane (CPT-4 11100)	34	79.4	20.6	0.0	0.0	0.0
Excision of benign lesion on trunk, arms, or legs--1.0 to 2.0 cm (CPT-4 11402)	34	73.5	17.6	0.0	0.0	8.8
Excision of benign lesion on trunk, arms, or legs--3.0 to 4.0 cm (CPT-4 11404)	34	38.2	29.4	23.5	2.9	5.9
Excision of benign lesion on face, ears, eyelids, nose, or lips--0.5 to 1.0 cm (CPT-4 11441)	34	88.2	8.8	0.0	0.0	2.9
Excision of benign lesion of face, ears, eyelids, nose, or lips--1.0 to 2.0 cm (CPT-4 11442)	34	67.6	29.4	0.0	0.0	2.9
Destruction of facial lesion by any method including local anesthesia (CPT-4 17000)	34	70.6	11.8	5.9	5.9	5.9
Split graft of trunk, scalp, arms, legs, hands, or feet--up to 100 sq. cm (CPT-4 15100)	34	29.4	47.1	17.6	2.9	2.9
Adjacent tissue transfer or rearrangement of eyelids, nose, ears, or lips--up to 10 sq. cm (CPT-4 14060)	34	38.2	47.1	11.7	2.9	0.0

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-9

## FREQUENCY OF PROCEDURE PERFORMANCE FOR EARS, NOSE AND THROAT SURGEONS

<u>PROCEDURES</u>	<u>N</u>	<u>PERCENT OF EARS, NOSE, AND THROAT SURGEONS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	48	89.6%	4.2%	4.2%	0.0%	2.1%
Initial comprehensive <u>hospital</u> visit, with history and examination for a new or established patient (CPT-4 90220)	48	64.6	25.0	2.1	2.1	6.3
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	48	10.4	8.3	2.1	8.3	70.8
Interpretation and report (only) for a complete sinus X-ray with a minimum of three views (CPT-4 70220)	48	62.5	6.3	2.1	0.0	29.2
Tympanoplasty (without mastoidectomy) (CPT-4 69631)	48	12.5	35.4	37.5	4.2	10.4
Tonsillectomy for patient under age 12 (CPT-4 42825)	48	56.3	33.3	4.2	2.1	4.2
Planned tracheostomy (CPT-4 31600)	48	12.5	25.0	43.8	6.3	12.5
Diagnostic, flexible fiberoptic laryngoscopy (CPT-4 31575)	48	52.1	18.8	6.3	6.3	16.7
Operative laryngoscopy direct with biopsy (CPT-4 31535)	47	25.5	55.3	10.6	2.1	6.4
Control nasal hemorrhage--anterior, complex, and unilateral (CPT-4 30903)	47	40.4	44.7	12.8	0.0	2.1
Basic comprehensive audiometry (CPT-4 92557)	48	54.2	0.0	2.1	14.6	29.2

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-10

## FREQUENCY OF PROCEDURE PERFORMANCE FOR GENERAL PRACTITIONERS, FAMILY PRACTITIONERS, AND INTERNISTS

PERCENT OF PRIMARY CARE SPECIALISTS PERFORMING THE PROCEDURE							
Procedure	Specialist	N	Weekly	Monthly	At least Once Monthly	Less than Annually	Never
Initial comprehensive <u>office</u> visit for a new patient (CPT-4 90020)	GP	172	78.5	15.1	2.9	1.7	1.7
	FP	332	81.0	13.0	3.0	1.2	1.8
	IM	445	89.2	7.9	0.7	1.3	0.9
Initial comprehensive <u>hospital</u> visit (with history and examination) for a new or established patient (CPT-4 90220)	GP	173	59.0	9.8	5.8	15.6	9.8
	FP	331	71.9	15.4	2.7	3.9	6.0
	IM	446	80.5	12.6	2.5	2.7	1.8
Intermediate follow-up <u>office</u> visit for an established patient (CPT-4 90060)	GP	171	81.9	9.9	4.1	1.8	2.3
	FP	331	87.3	7.3	2.7	1.2	1.5
	IM	442	86.7	9.0	2.5	0.9	0.9
Intermediate follow-up <u>hospital</u> visit (CPT-4 90260)	GP	172	60.5	8.1	5.2	14.5	11.6
	FP	330	79.4	10.0	1.5	3.0	6.1
	IM	441	80.0	9.3	2.7	3.9	4.1
Initial comprehensive consultation (CPT-4 90620)	GP	173	24.9	25.4	11.6	13.9	24.3
	FP	327	24.8	32.7	21.1	6.4	15.0
	IM	444	64.6	22.7	7.7	2.9	2.0
Discharge hospital visit (on final day of a multiple-day stay) (CPT-4 90292)	GP	173	61.3	9.8	3.5	12.1	13.3
	FP	331	74.9	13.3	1.8	3.3	6.6
	IM	445	79.1	10.3	3.6	3.4	3.6
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	GP	173	41.6	6.4	4.0	13.3	34.7
	FP	330	45.2	6.4	3.0	7.0	38.5
	IM	446	34.5	4.7	3.4	7.8	49.6
Interpretation and report (only) for an ECG (electrocardiogram) (CPT-4 93010)	GP	172	50.6	9.9	3.5	10.5	25.6
	FP	328	59.8	9.5	1.8	4.0	25.0
	IM	446	68.2	8.7	4.0	3.8	15.2
Diagnostic proctosigmoidoscopy (CPT-4 45300)	GP	173	15.6	15.6	9.8	16.8	42.2
	FP	328	17.7	24.1	11.6	18.6	28.0
	IM	445	17.8	18.7	9.4	15.7	38.4
Diagnostic, flexible fiberoptic sigmoidoscopy (CPT-4 45330)	GP	173	8.7	5.8	2.3	13.9	69.4
	FP	329	16.4	13.1	4.6	13.1	52.9
	IM	445	11.9	6.5	2.2	11.0	68.3
Diagnostic, fiberoptic colonoscopy 25 cm to splenic flexure (CPT-4 45360)	GP	173	4.0	1.7	1.7	11.0	81.5
	FP	329	5.2	7.3	2.1	9.7	75.7
	IM	445	6.5	3.8	1.3	9.4	78.9
Diagnostic, complex upper GI endoscopy (including esophagus, stomach, and either the duodenum and/or the jejunum) (CPT-4 43235)	GP	173	0.6	0.6	0.6	6.9	91.3
	FP	328	1.2	0	1.5	8.2	89.0
	IM	445	3.4	1.3	0.4	10.8	84.0
Upper GI endoscopy for biopsy (CPT-4 43239)	GP	173	0.6	0	0	8.1	91.3
	FP	328	0.3	0.9	0.6	7.9	90.2
	IM	445	2.5	2.0	0.4	10.3	84.7

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-11

## FREQUENCY OF PROCEDURE PERFORMANCE FOR CARDIOLOGISTS

<u>PROCEDURES</u>	<u>N</u>	<u>PERCENT OF CARDIOLOGISTS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive office visit for a new patient (CPT-4 90020)	89	88.8%	5.6%	3.4%	0.0%	2.2%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	89	91.0	6.7	0.0	0.0	2.2
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	89	28.1	6.7	3.4	4.5	57.3
Interpretation and report (only) for an ECG (electrocardiogram) (CPT-4 93010)	89	83.1	5.6	0.0	0.0	11.2
Permanent pacemaker insertion--single chamber, ventricular (CPT-4 33207)	89	9.0	20.2	9.0	11.2	50.6
Permanent pacemaker insertion--dual chamber, AV sequential (CPT-4 33208)	89	4.5	15.7	11.2	13.5	55.1
Swan-Ganz catheterization (CPT-4 93503)	89	40.4	33.7	7.9	4.5	13.5
Left heart catheterization, with selective coronary angiography and left ventricular angiography (CPT-4 93547)	89	52.8	2.2	1.1	13.5	30.3
Combined right and left heart catheter- ization with selective coronary angiography and left ventricular angiography (CPT-4 93549)	89	25.8	24.7	7.9	11.2	30.3
M-mode echocardiography (CPT-4 93300)	89	43.8	5.6	1.1	11.2	38.2
Real time echocardiography (CPT-4 93307)	89	48.3	3.4	2.2	10.1	36.0
Doppler echocardiography (CPT-4 93320)	89	32.6	4.5	3.4	9.0	50.6

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.





TABLE A-12

## FREQUENCY OF PROCEDURE PERFORMANCE FOR GASTROENTEROLOGISTS

PROCEDURES	N	PERCENT OF GASTROENTEROLOGISTS PERFORMING THE PROCEDURE				
		Weekly	Monthly	At least Once Annually	Less than Annually	Never
Initial comprehensive office visit for a new patient (CPT-4 90020)	37	89.2%	2.7%	5.4%	0.0%	2.7%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	37	89.2	2.7	5.4	0.0	2.7
Intermediate follow-up hospital visit (CPT-4 90260)	37	89.2	0.0	5.4	0.0	5.4
Initial comprehensive consultation (CPT-4 90620)	36	91.7	2.8	5.6	0.0	0.0
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	37	24.3	0.0	5.4	13.5	56.8
Interpretation and report (only) for an ECG (electrocardiogram) (CPT-4 93010)	37	43.2	8.1	8.1	5.4	35.1
Interpretation and report (only) for an abdominal ultrasound (CPT-4 76700)	37	21.6	2.7	0.0	5.4	70.3
Interpretation and report (only) for an upper GI series (CPT-4 74240)	37	29.7	2.7	5.4	2.7	59.5
Diagnostic proctosigmoidoscopy (CPT-4 45300)	37	64.9	8.1	5.4	8.1	13.5
Diagnostic flexible fiberoptic sigmoidoscopy (CPT-4 45330)	37	83.8	5.4	2.7	0.0	8.1
Diagnostic, fiberoptic colonoscopy, 25 cm to splenic flexure (CPT-4 45360)	37	73.0	2.7	13.5	0.0	10.8
Diagnostic, fiberoptic colonoscopy, beyond splenic flexure (CPT-4 45378)	37	86.5	5.4	2.7	0.0	5.4
Diagnostic upper GI endoscopy, complex, without biopsy (including the esophagus, stomach and either the duodenum and/or the jejunum) (CPT-4 43235)	37	86.5	8.1	0.0	0.0	5.4
Upper GI endoscopy for biopsy (CPT-4 43239)	37	86.5	8.1	0.0	0.0	5.4

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-13

## FREQUENCY OF PROCEDURE PERFORMANCE FOR NEUROLOGISTS

<u>PROCEDURES</u>	<u>N</u>	<u>PERCENT OF NEUROLOGISTS PERFORMING THE PROCEDURE</u>				
		<u>Weekly</u>	<u>Monthly</u>	<u>At least Once Annually</u>	<u>Less than Annually</u>	<u>Never</u>
Initial comprehensive office visit for a new patient (CPT-4 90020)	36	94.4%	2.8%	0.0%	0.0%	2.8%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	36	77.8	13.9	2.8	2.8	2.8
Initial comprehensive consultation (CPT-4 90620)	36	94.4	2.8	2.8	0.0	0.0
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	31	2.8	2.8	0.0	8.3	86.1
Interpretation and report (only) for a spine X-ray--lumbosacral, anteroposterior, and lateral (CPT-4 72100)	36	11.1	5.6	2.8	0.0	80.6
Interpretation and report (only) for an EEG-- awake, drowsy, and asleep (CPT-4 95819)	36	77.8	5.6	0.0	2.8	13.9
Interpretation and report (only) for a complete skull X-ray with a minimum of four views (CPT-4 70260)	36	2.8	8.3	11.1	0.0	77.8
Magnetic resonance imaging; brain (CPT-4 70550)	36	11.1	0.0	0.0	2.8	86.1
CAT scan of head without contrast (CPT-4 70450)	36	16.7	0.0	0.0	2.8	80.6
CAT scan of head with and without contrast (CPT-4 70470)	36	19.4	0.0	0.0	2.8	77.8
Diagnostic, lumbar puncture (LP) (CPT-4 62270)	36	30.6	50.0	13.9	2.8	2.8
Nerve conduction, velocity, and/or latency study (motor) (CPT-4 95900)	36	41.7	5.6	0.0	11.1	41.7
Electromyography of one extremity (CPT-4 95860)	35	45.7	2.9	0.0	8.6	42.9

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-14

## FREQUENCY OF PROCEDURE PERFORMANCE FOR DERMATOLOGISTS

PROCEDURES	N	PERCENT OF DERMATOLOGISTS PERFORMING THE PROCEDURE				
		Weekly	Monthly	At least Once Annually	Less than Annually	Never
Initial comprehensive office visit for a new patient (CPT-4 90020)	26	84.6%	3.8%	3.8%	0.0%	7.7%
Initial comprehensive hospital visit, with history and examination for a new or established patient (CPT-4 90220)	26	15.4	30.8	15.4	19.2	19.2
Intermediate follow-up office visit for an established patient (CPT-4 90060)	26	92.3	3.8	0.0	3.8	0.0
Initial comprehensive consultation (CPT-4 90620)	26	65.4	11.5	7.7	3.8	11.5
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	26	0.0	0.0	3.8	11.5	84.6
Biopsy of skin, or subcutaneous tissue and/or mucous membrane (CPT-4 11100)	26	92.3	3.8	3.8	0.0	0.0
Excision of benign lesion on trunk, arms, or legs--1.0 to 2.0 cm (CPT-4 11402)	26	84.0	12.0	4.0	0.0	0.0
Excision of benign lesion on trunk, arms, or legs--3.0 to 4.0 cm (CPT-4 11404)	25	20.0	28.0	20.0	16.0	16.0
Excision of benign lesion on face, ears, eyelids, nose, or lips--0.5 to 1.0 cm (CPT-4 11441)	25	88.0	12.0	0.0	0.0	0.0
Excision of benign lesion of face, ears, eyelids, nose, or lips--1.0 to 2.0 cm (CPT-4 11442)	25	52.0	28.0	12.0	0.0	8.0
Destruction of facial lesion by any method including local anesthesia (CPT-4 17000)	25	92.0	4.0	4.0	0.0	0.0

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



TABLE A-15

## FREQUENCY OF PROCEDURE PERFORMANCE FOR RADIOLOGISTS (GROUP 1 AND GROUP 2)

Procedures For Both Groups	PERCENT OF RADIOLOGISTS PERFORMING THE PROCEDURE					
	N	Weekly	Monthly	At Least Once Annually	Less Than Annually	Never
Interpretation and report (only) for a chest X-ray with a single view (CPT-4 71010)	249	88.0	0.8	0.0	0.4	10.8
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	248	81.9	3.6	0.8	0.4	13.3
Interpretation and report (only) for an abdominal ultrasound (CPT-4 76700)	248	71.4	4.0	2.0	5.2	17.3
Bone imaging of whole body (CPT-4 78306)	247	58.3	4.9	3.2	7.3	26.3
Magnetic resonance imaging of head (CPT-70550)	247	14.6	2.8	0.0	8.9	3.7
Cat scan of head, with and without contrast (CPT-4 70470)	247	66.8	4.5	1.2	3.6	23.9
Intravenous urography (pyelography) (CPT-4 74400)	246	81.7	4.1	0.4	1.2	12.6
Daily simple megavoltage treatment (CPT-4 77400)	247	7.7	0.4	0.0	10.1	81.8
<u>Procedures For Group 1 Only</u>						
Interpretation and report (only) for a complete hip X-ray -- unilateral, with a minimum of two views (CPT-4 73510)	132	86.4	3.8	1.5	0.0	8.3
Interpretation and report (only) of complete skull X-ray, with a minimum of four views (CPT-4 70260)	132	75.0	10.6	3.8	2.3	8.3
Interpretation and report (only) for an oral contrast cholecystography (CPT-4 74290)	132	50.0	21.2	13.6	6.1	9.1
Cat scan of head, without contrast (CPT-4 70450)	129	61.2	10.1	2.3	3.9	22.5
Barium enema (CPT-4 74270)	130	86.9	2.3	0.0	1.5	9.2
Ophthalmic biometry by A-mode ultrasound, echography (CPT-4 76516)	130	1.5	0.0	0.0	8.5	90.0
Ophthalmic biometry by B-scan and/or real time ultrasound echography (CPT-4 76517)	130	1.5	0.8	1.5	6.2	90.0
<u>Procedures For Group 2 Only</u>						
Interpretation and report (only) for a spine X-ray -- lumbosacral, anteroposterior, and lateral (CPT-4 72100)	116	85.3	0.9	0.0	0.0	13.8
Interpretation and report (only) for a complete sinus X-ray, with a minimum of 3 views (CPT-4 70220)	116	84.5	1.7	0.0	0.0	13.8
Interpretation and report (only) for a bilateral mammogram (CPT-4 76091)	117	77.8	0.9	0.9	3.4	17.1
Interpretation and report (only) for an upper GI series (CPT-4 74240)	117	78.6	1.7	1.7	0.9	17.1
Interpretation and report (only) for a knee X-ray with two views (CPT-4 73560)	117	81.2	0.9	0.0	1.7	16.2
Cat scan of abdomen with contrast (CPT-4 74160)	117	69.2	1.7	0.9	2.6	25.6
Cat scan of abdomen with and without contrast (CPT-4 74170)	117	57.3	6.0	5.1	3.4	28.2

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.





TABLE A-16

## FREQUENCY OF PROCEDURE PERFORMANCE FOR ANESTHESIOLOGISTS (GROUP 1 AND GROUP 2)

Procedures For Both Groups	PERCENT OF RADIOLOGISTS PERFORMING THE PROCEDURE					
	N	Weekly	Monthly	At Least Once Annually	Less Than Annually	Never
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	255	16.5	11.0	9.4	9.4	53.7
General anesthesia for a transurethral resection of the prostate (TURP) (CPT-4 52601)	254	63.4	17.3	11.0	3.9	4.3
General anesthesia for a simple hip arthroplasty (total hip replacement) (CPT-4 27130)	255	33.3	40.0	13.7	7.5	5.5
General anesthesia for a femoral fracture with internal fixation (CPT-4 27236)	255	34.5	35.3	18.8	7.1	4.3
General anesthesia for a 3 artery CABG (coronary artery bypass graft) (CPT-4 33512)	253	21.7	5.5	2.0	24.9	45.8
<u>Procedures For Group 1 Only</u>						
General anesthesia for a suprapubic prostatectomy (CPT-4 55821)	129	4.7	23.3	46.5	18.6	7.0
Monitored anesthesia care for a lens extraction with IOL implant (CPT-4 66984)	129	57.4	16.3	10.9	8.5	7.0
General anesthesia for a total abdominal hysterectomy (CPT-4 58150)	128	62.5	20.3	11.7	3.1	2.3
General anesthesia for a vaginal hysterectomy (CPT-4 58260)	128	36.7	33.6	21.9	4.7	3.1
Spinal block for a vaginal hysterectomy (CPT-4 58260)	128	11.7	18.0	33.6	21.9	14.8
General anesthesia for a partial colectomy (CPT-4 44140)	128	30.5	53.9	10.9	3.1	1.6
<u>Procedures For Group 2 Only</u>						
Spinal block for a transurethral resection of the prostate (TURP) (CPT-4 52601)	126	43.7	25.4	19.8	7.1	4.0
General anesthesia for a secondary hip revision (CPT-4 27135)	125	6.4	24.8	38.4	17.6	12.8
General anesthesia for an aortic valve replacement (CPT-4 33405)	124	7.3	17.7	8.9	25.8	40.3
General anesthesia for an inguinal hernia repair (CPT-4 49505)	126	70.6	19.8	5.6	1.6	2.4
General anesthesia for a hemilaminectomy for excision of a herniated disk and/or decompression of a nerve root--lumbar unilateral (CPT-4 63030)	126	38.1	35.7	7.9	7.9	10.3
General anesthesia for cholecystectomy with common duct exploration (CPT-4 47610)	124	54.0	25.8	11.3	3.2	5.6

Source: Data shown here were obtained from the 1987 Physicians' Practice Follow-up Survey.



## APPENDIX B

## REGRESSION PARAMETERS AND PREDICTED AMOUNTS

<u>Exhibit</u>	<u>Contents</u>
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## EXHIBIT B-1

## RAW DATA: MEDICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
11100	39.70	13.72	1.77	0.00	2
11402	65.86	29.17	2.08	0.00	2
11404	99.53	47.92	2.95	0.00	2
11441	59.06	25.84	2.81	0.00	2
11442	77.22	35.10	3.23	0.00	2
17000	31.15	13.09	1.88	0.00	2
33207	937.21	69.42	2.68	179.98	2
33208	1245.92	99.44	3.57	217.25	2
43235	279.33	28.07	2.24	0.00	2
43239	322.54	30.92	2.40	0.00	2
45300	35.86	19.95	1.31	0.00	2
45330	82.45	24.80	1.74	0.00	2
45360	198.07	33.29	2.35	0.00	2
45378	390.77	48.09	3.56	0.00	2
62270	57.43	28.28	2.18	0.00	2
70220	18.48	5.35	0.85	0.00	1
70260	21.93	5.94	0.99	0.00	1
71010	12.85	4.07	0.91	0.00	1
71020	14.20	4.77	1.00	0.00	1
72100	16.21	5.98	0.89	0.00	1
73510	15.55	4.93	0.73	0.00	1
73560	12.14	3.97	0.49	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-1 (continued)

## RAW DATA: MEDICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
74240	30.37	12.27	1.34	0.00	1
74290	19.11	8.50	0.85	0.00	1
76091	28.54	9.66	1.67	0.00	1
76700	53.14	12.23	1.80	0.00	1
90020-GP	39.74	39.48	2.06	0.00	1
90020-CAR	65.06	55.36	2.19	0.00	1
90020-DRM	36.20	25.22	2.59	0.00	1
90020-FP	39.12	40.60	2.13	0.00	1
90020-GAS	67.70	51.47	2.49	0.00	1
90020-IM	60.66	54.26	2.42	0.00	1
90020-NEU	70.66	60.00	3.35	0.00	1
90060-GP	19.73	17.68	1.13	0.00	1
90060-DRM	23.94	13.28	1.37	0.00	1
90060-FP	20.16	18.69	1.12	0.00	1
90060-IM	24.75	22.74	1.31	0.00	1
90220-GP	47.28	44.79	2.19	0.00	1
90220-CAR	68.40	54.07	2.33	0.00	1
90220-DRM	63.61	39.17	2.80	0.00	1
90220-FP	46.26	50.18	2.33	0.00	1
90220-GAS	69.22	57.21	2.53	0.00	1
90220-IM	59.22	57.63	2.57	0.00	1
90220-NEU	76.06	62.12	3.45	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-1 (continued)

## RAW DATA: MEDICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
90260-GP	21.05	17.78	1.31	0.00	1
90260-FP	23.27	18.73	1.28	0.00	1
90260-GAS	26.18	18.64	1.42	0.00	1
90260-IM	24.82	20.67	1.48	0.00	1
90292-GP	26.46	24.67	1.42	0.00	1
90292-FP	28.22	26.41	1.45	0.00	1
90292-IM	31.61	27.45	1.50	0.00	1
90620-GP	70.22	40.26	2.11	0.00	1
90620-DRM	67.19	27.35	3.00	0.00	1
90620-FP	67.48	44.65	2.13	0.00	1
90620-GAS	85.87	57.79	2.64	0.00	1
90620-IM	84.65	59.32	2.70	0.00	1
90620-NEU	88.67	57.57	3.42	0.00	1
93010	13.32	6.22	0.95	0.00	1
93300	68.56	23.09	1.78	0.00	1
93307	95.97	26.63	2.12	0.00	1
93320	80.40	28.33	2.15	0.00	1
93503	287.33	42.42	2.41	0.00	2
93547	605.96	52.86	3.50	0.00	2
93549	812.79	74.22	3.98	0.00	2
95819	38.83	13.57	1.90	0.00	1
95860	78.89	34.06	2.91	0.00	1
95900	76.04	29.71	2.22	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up survey.



## EXHIBIT B-2

## RAW DATA: SURGICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
11100	43.05	25.15	0.67	0.00	2
11402	76.03	28.50	0.71	0.00	2
11404	109.97	38.12	1.27	0.00	2
11441	77.95	36.45	1.35	0.00	2
11442	118.15	45.16	1.56	0.00	2
14060	523.57	79.54	2.41	131.30	2
15100	406.56	83.40	1.77	202.56	2
17000	33.97	22.85	0.79	0.00	2
19240	950.69	108.71	5.29	246.67	2
20610	29.81	16.12	1.51	0.00	2
27130	2251.71	127.25	4.78	249.98	2
27135	2271.04	182.65	6.94	283.86	2
27236	1140.42	99.29	4.88	241.46	2
27244	1130.39	91.55	4.15	248.17	2
27447	2196.35	121.04	5.53	243.27	2
30903	57.40	34.70	1.01	0.00	2
31535	294.67	35.13	1.24	0.00	2
31575	108.54	21.39	0.88	0.00	2
31600	328.52	35.00	1.47	132.67	2
32480	1593.72	145.38	4.54	348.08	2
33207	1058.47	66.25	1.61	155.83	2
33208	1272.49	77.94	3.50	156.62	2

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-2 (continued)

## RAW DATA: SURGICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
33405	2894.79	201.43	5.26	334.29	2
33512	3713.86	221.25	5.10	335.00	2
33513	3958.52	225.00	5.32	370.00	2
35301	1497.43	95.68	6.18	202.45	2
43235	270.66	30.28	2.70	0.00	2
44140	1152.12	129.57	5.88	273.37	2
45330	85.76	27.15	1.61	0.00	2
45360	196.23	30.96	2.05	0.00	2
45378	362.45	54.22	3.42	0.00	2
47600	798.49	75.29	4.91	189.93	2
47610	962.03	112.11	5.69	237.63	2
49505	511.30	56.18	2.80	105.93	2
50080	1001.55	107.84	3.37	0.00	2
52000	92.58	18.86	1.24	0.00	2
52005	155.05	32.52	1.52	0.00	2
52234	322.36	37.87	1.94	0.00	2
52601	1037.76	68.36	3.32	201.44	2
53660	19.60	11.65	0.52	0.00	2
55821	1146.93	70.00	3.02	291.49	2
57520	263.97	17.62	1.02	0.00	2
58100	49.41	12.98	1.03	0.00	2
58120	250.39	19.75	1.42	57.37	2

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-2 (continued)

RAW DATA: SURGICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
58150	921.56	91.03	3.62	164.61	2
58260	953.60	69.09	3.60	162.87	2
58265	967.06	104.73	4.17	178.81	2
61310	1782.00	124.77	6.67	334.08	2
61510	2097.95	216.00	8.56	442.28	2
62270	54.28	19.33	1.99	0.00	2
63005	1464.23	136.89	5.80	340.59	2
63030	1237.12	94.39	5.60	256.84	2
66170	874.87	59.55	6.36	178.64	2
66920	1009.42	54.71	5.33	192.35	2
66940	978.47	47.65	5.77	190.84	2
66984	1546.25	56.45	6.87	175.43	2
66985	942.70	40.38	5.82	176.04	2
67036	1887.45	80.63	6.80	239.15	2
67107	1507.76	130.00	6.32	247.50	2
67226	642.60	37.79	4.61	0.00	2
69631	1134.60	91.36	1.91	148.91	2
70220	17.16	6.94	0.62	0.00	1
70260	21.42	6.73	1.25	0.00	1
71020	13.23	7.46	1.00	0.00	1
72100	17.22	7.75	1.24	0.00	1
73510	16.11	5.90	1.11	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

**Source:** Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-2 (continued)

## RAW DATA: SURGICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
76516	133.14	20.81	2.25	0.00	1
76517	178.12	20.00	2.58	0.00	1
76700	57.34	17.06	1.48	0.00	1
90020-GS	38.06	37.22	1.93	0.00	1
90020-ENT	36.49	22.84	0.83	0.00	1
90020-NES	56.99	52.39	3.05	0.00	1
90020-OBG	41.72	33.91	1.54	0.00	1
90020-ORS	42.90	34.73	2.16	0.00	1
90020-PS	37.76	34.03	0.91	0.00	1
90020-CTS	44.95	49.74	1.52	0.00	1
90020-URO	39.05	34.46	1.32	0.00	1
90060-PS	23.18	15.16	0.59	0.00	1
90220-GS	50.89	41.53	2.18	0.00	1
90220-ENT	58.05	34.19	0.89	0.00	1
90220-NES	63.39	44.17	3.15	0.00	1
90220-OBG	56.74	38.90	1.61	0.00	1
90220-OPH	57.07	43.39	2.35	0.00	1
90220-ORS	59.30	37.16	2.16	0.00	1
90220-PS	62.80	35.00	0.72	0.00	1
90220-CTS	60.81	43.64	1.56	0.00	1
90220-URO	53.00	35.43	1.47	0.00	1
90620-PS	60.91	33.79	0.96	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

**Source:** Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## RAW DATA: SURGICAL SPECIALISTS

CPT-4 CODE	ACTUAL ALLOWED CHARGE	PROCEDURE TIME	STANDARDIZED COMPLEXITY	PRE/POST TIME	SURGICAL DUMMY*
92004	35.48	31.80	2.24	0.00	1
92100	17.24	26.88	2.23	0.00	1
92557	36.97	29.04	0.58	0.00	1
93503	244.89	21.67	1.36	0.00	2
95819	32.77	15.00	3.13	0.00	1

\*Surgical procedures are designated with a value of 2; non-surgery equals 1.

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	67	1	67
LTIME	215.8391277	3.221479518	736.83047927
LSCOMP	42.63279068	.63631030866	40.42472501
LPRICE	270.3988458	4.0358036686	1162.5080166

## Variables Variance Std Deviation

INTERCEP	0	0
LTIME	.62892651805	.79304887494
LSCOMP	.20147031535	.44885444785
LPRICE	1.0792630722	1.0388758695

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	2	43.90159	21.95079	51.404	0.0001
Error	64	27.32977	0.42703		
C Total	66	71.23136			
Root MSE		0.65347	R-Square	0.6163	
Dep Mean		4.03580	Adj R-Sq	0.6043	
C.V.		16.19191			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	2.355132	0.50120004	4.699	0.0001	0.00000000
LTIME	1	0.238393	0.21602210	1.104	0.2739	0.18198276
LSCOMP	1	1.434352	0.38167402	3.758	0.0004	0.61972309

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-3 (continued)

## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.70	58.44	47.21	44.60	76.57
11402	65.86	87.76	33.25	74.56	103.30
11404	99.53	163.84	64.61	130.58	205.56
11441	59.06	131.41	122.50	94.37	182.98
11442	77.22	172.86	123.85	124.32	240.35
17000	31.15	63.11	102.59	45.78	87.00
33207	937.21	155.74	-83.38	116.80	207.67
33208	1245.92	255.86	-79.46	185.04	353.78
43235	279.33	96.83	-65.34	80.68	116.22
43239	322.54	109.89	-65.93	90.42	133.55
45300	35.86	41.59	15.99	32.31	53.54
45330	82.45	65.78	-20.22	55.53	77.92
45360	198.07	108.51	-45.21	90.66	129.88
45378	390.77	214.13	-45.20	156.64	292.73
62270	57.43	93.68	63.11	78.74	111.45
70220	18.48	16.15	-12.61	11.36	22.97
70260	21.93	20.64	-5.87	14.74	28.90
71010	12.85	16.76	30.40	10.98	25.58
71020	14.20	19.97	40.60	13.38	29.79
72100	16.21	17.96	10.83	12.89	25.04
73510	15.55	12.93	-16.88	8.84	18.90
73560	12.14	6.93	-42.94	4.12	11.64

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-3 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
74240	30.37	37.95	24.95	30.59	47.08
74290	19.11	18.09	-5.35	12.92	25.32
76091	28.54	49.56	73.67	34.26	71.70
76700	53.14	58.24	9.60	42.26	80.28
90020-GP	39.74	93.51	135.31	75.61	115.65
90020-CAR	65.06	110.60	69.99	82.38	148.47
90020-DRM	36.20	116.45	221.69	87.43	155.11
90020-FP	39.12	98.57	151.97	80.02	121.43
90020-GAS	67.70	130.27	92.42	103.97	163.22
90020-IM	60.66	126.63	108.76	98.87	162.18
90020-NEU	70.66	207.45	193.60	159.91	269.13
90060-GP	19.73	32.70	65.73	23.97	44.60
90060-DRM	23.94	40.09	67.47	32.66	49.21
90060-FP	20.16	32.69	62.13	23.45	45.56
90060-IM	24.75	42.53	71.83	31.73	57.00
90220-GP	47.28	104.89	121.84	83.65	131.51
90220-CAR	68.40	119.81	75.16	92.37	155.40
90220-DRM	63.61	144.46	127.11	115.43	180.79
90220-FP	46.26	118.04	155.16	93.15	149.56
90220-GAS	69.22	137.15	98.14	107.00	175.80
90220-IM	59.22	140.20	136.74	109.57	179.38
90220-NEU	76.06	217.54	186.02	166.36	284.47

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-3 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90260-GP	21.05	40.39	91.86	32.15	50.73
90260-FP	23.27	39.26	68.70	30.45	50.61
90260-GAS	26.18	45.79	74.91	37.50	55.92
90260-IM	24.82	49.69	100.21	40.70	60.67
90292-GP	26.46	48.89	84.78	37.50	63.75
90292-FP	28.22	51.22	81.51	38.97	67.33
90292-IM	31.61	54.30	71.79	41.67	70.76
90620-GP	70.22	97.27	38.53	78.93	119.88
90620-DRM	67.19	146.91	118.65	102.66	210.24
90620-FP	67.48	100.76	49.32	79.57	127.59
90620-GAS	85.87	145.61	69.57	114.40	185.34
90620-IM	84.65	151.30	78.74	118.64	192.96
90620-NEU	88.67	211.21	138.20	161.44	276.32
93010	13.32	19.91	49.41	14.39	27.54
93300	68.56	66.76	-2.63	56.84	78.41
93307	95.97	88.80	-7.47	74.68	105.59
93320	80.40	91.92	14.33	77.55	108.95
93503	287.33	118.87	-58.63	98.06	144.09
93547	605.96	214.24	-64.64	160.59	285.82
93549	812.79	278.89	-65.69	204.05	381.19
95819	38.83	64.27	65.52	47.07	87.77
95860	78.89	147.54	87.02	112.41	193.65

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-3 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
95900	76.04	97.31	27.98	81.80	115.78

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-4

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	93		
LTIME	350.61292049	3.7700314031	1384.7792631
LSCOMP	75.428838395	.81106277845	110.54632373
LPRICE	499.08331295	5.3664872361	2925.838741

## Variables

	Variance	Std Deviation
INTERCEP		
LTIME	.68432111455	.82723703649
LSCOMP	.53661739656	.73254173708
LPRICE	2.6903751338	1.6402363043

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	2	195.51225	97.75613	169.186	0.0001
Error	90	52.00226	0.57780		
C Total	92	247.51451			
Root MSE		0.76013	R-Square	0.7899	
Dep Mean		5.36649	Adj R-Sq	0.7852	
C.V.		14.16445			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	0.568101	0.46966152	1.210	0.2296	0.00000000
LTIME	1	1.079686	0.14798819	7.296	0.0001	0.54452879
LSCOMP	1	0.897511	0.16711855	5.371	0.0001	0.40083491

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-4 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	43.05	52.01	20.80	37.18	72.74
11402	76.03	62.11	-18.31	44.24	87.20
11404	109.97	143.53	30.52	114.45	180.00
11441	77.95	145.03	86.06	118.01	178.24
11442	118.15	208.12	76.15	169.78	255.12
14060	523.57	564.63	7.84	450.75	707.27
15100	406.56	450.15	10.72	332.64	609.18
17000	33.97	53.76	58.25	40.39	71.56
19240	950.69	1603.59	68.68	1252.32	2053.39
20610	29.81	66.42	122.80	51.16	86.22
27130	2251.71	1734.90	-22.95	1340.43	2245.46
27135	2271.04	3584.06	57.82	2603.98	4933.01
27236	1140.42	1354.02	18.73	1072.12	1710.03
27244	1130.39	1073.17	-5.06	865.93	1330.02
27447	2196.35	1875.76	-14.60	1446.91	2431.71
30903	57.40	106.26	85.12	81.22	139.03
31535	294.67	129.25	-56.14	103.70	161.09
31575	108.54	55.34	-49.01	42.77	71.61
31600	328.52	149.13	-54.60	123.66	179.86
32480	1593.72	1913.40	20.06	1444.68	2534.19
33207	1058.47	322.37	-69.54	245.66	423.04
33208	1272.49	774.05	-39.17	638.27	938.73

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-4 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	3108.55	7.38	2218.60	4355.48
33512	3713.86	3341.90	-10.02	2332.02	4789.10
33513	3958.52	3537.98	-10.62	2468.45	5070.93
35301	1497.43	1607.96	7.38	1228.97	2103.84
43235	270.66	220.76	-18.44	176.87	275.54
44140	1152.12	2133.72	85.20	1627.47	2797.46
45330	85.76	123.21	43.67	102.88	147.56
45360	196.23	176.55	-10.03	148.20	210.31
45378	362.45	511.92	41.24	425.42	616.01
47600	798.49	1009.26	26.40	800.19	1272.95
47610	962.03	1771.58	84.15	1369.49	2291.72
49505	511.30	444.14	-13.13	376.67	523.70
50080	1001.55	1061.06	5.94	831.45	1354.09
52000	92.58	66.03	-28.68	52.83	82.53
52005	155.05	142.10	-8.35	118.84	169.90
52234	322.36	208.86	-35.21	178.01	245.06
52601	1037.76	640.34	-38.30	534.32	767.39
53660	19.60	17.86	-8.86	12.55	25.42
55821	1146.93	602.41	-47.48	502.46	722.24
57520	263.97	51.26	-80.58	40.31	65.18
58100	49.41	37.39	-24.32	28.31	49.39
58120	250.39	77.95	-68.87	62.69	96.92

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-4 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58150	921.56	941.36	2.15	762.33	1162.44
58260	953.60	696.48	-26.96	577.56	839.89
58265	967.06	1245.77	28.82	990.20	1567.30
61310	1782.00	2293.04	28.68	1727.06	3044.51
61510	2097.95	5187.14	147.25	3642.86	7386.08
62270	54.28	103.34	90.38	79.65	134.08
63005	1464.23	2236.33	52.73	1698.70	2944.11
63030	1237.12	1449.24	17.15	1127.80	1862.29
66170	874.87	987.87	12.92	716.53	1361.96
66920	1009.42	770.10	-23.71	578.87	1024.51
66940	978.47	711.98	-27.24	511.08	991.83
66984	1546.25	999.45	-35.36	702.79	1421.35
66985	942.70	599.53	-36.40	415.48	865.12
67036	1887.45	1456.59	-22.83	1077.91	1968.30
67107	1507.76	2281.87	51.34	1727.37	3014.37
67226	642.60	453.36	-29.45	331.66	619.73
69631	1134.60	532.78	-53.04	392.30	723.57
70220	17.16	12.03	-29.91	8.20	17.63
70260	21.42	21.79	1.73	13.94	34.08
71020	13.23	19.98	51.05	13.52	29.53
72100	17.22	25.23	46.54	16.76	37.99
73510	16.11	16.95	5.20	10.68	26.89

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-4 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
76516	133.14	124.85	-6.22	95.65	162.96
76517	178.12	135.18	-24.11	99.50	183.65
76700	57.34	69.06	20.45	53.97	88.38
90020-GS	38.06	203.81	435.49	173.64	239.22
90020-ENT	36.49	56.26	54.19	42.78	74.00
90020-NES	56.99	444.43	679.84	374.63	527.24
90020-OBG	41.72	150.58	260.94	126.00	179.96
90020-ORS	42.90	209.44	388.20	177.37	247.30
90020-PS	37.76	94.50	150.26	70.36	126.91
90020-CTS	44.95	225.73	402.18	180.17	282.81
90020-URO	39.05	133.33	241.43	108.54	163.79
90060-PS	23.18	26.67	15.05	19.19	37.07
90220-GS	50.89	256.08	403.19	218.91	299.55
90220-ENT	58.05	92.75	59.78	68.51	125.57
90220-NES	63.39	380.84	500.79	314.95	460.52
90220-OBG	56.74	182.08	220.90	152.09	217.99
90220-OPH	57.07	286.95	402.80	245.21	335.79
90220-ORS	59.30	225.78	280.74	192.24	265.17
90220-PS	62.80	79.12	25.99	54.85	114.14
90220-CTS	60.81	199.98	228.85	163.84	244.08
90220-URO	53.00	151.70	186.22	125.76	182.99
90620-PS	60.91	98.05	60.98	74.09	129.77

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-4 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
92004	35.48	196.92	455.02	164.36	235.94
92100	17.24	163.48	848.25	132.63	201.50
92557	36.97	53.41	44.46	35.87	79.51
93503	244.89	83.35	-65.97	67.89	102.33
95819	32.77	117.88	259.72	76.60	181.40

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



# EXHIBIT B-5

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME AND COMPLEXITY

Descriptive Statistics			
Variables	Sum	Mean	Uncorrected SS
INTERCEP	67	1	67
LTIMETOT	218.2763009	3.2578552374	761.3085119
LSCOMP	42.63279068	.63631030866	40.42472501
LPRICE	270.3988458	4.0358036686	1162.5080166

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIMETOT	.76054426987	.87209189302
LSCOMP	.20147031535	.44885444785
LPRICE	1.0792630722	1.0388758695

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	2	47.08854	23.54427	62.413	0.0001
Error	64	24.14282	0.37723		
C Total	66	71.23136			
Root MSE		0.61419	R-Square	0.6611	
Dep Mean		4.03580	Adj R-Sq	0.6505	
C.V.		15.21858			

Parameter Estimates			
Variable	DF	Parameter Estimate	Standardized Estimate
INTERCEP	1	1.751517	0.0001
LTIMETOT	1	0.513891	0.0026
LSCOMP	1	0.958816	0.0037

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-5 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.70	47.50	19.64	37.69	59.85
11402	65.86	81.44	23.65	69.83	94.97
11404	99.53	147.40	48.09	118.74	182.98
11441	59.06	102.18	73.01	76.12	137.16
11442	77.22	136.82	77.18	101.11	185.14
17000	31.15	49.17	57.85	37.57	64.34
33207	937.21	313.53	-66.55	174.92	562.01
33208	1245.92	466.49	-62.56	271.22	802.35
43235	279.33	85.80	-69.28	72.14	102.05
43239	322.54	96.63	-70.04	80.27	116.34
45300	35.86	43.21	20.51	34.59	53.97
45330	82.45	63.41	-23.09	54.32	74.03
45360	198.07	98.36	-50.34	82.86	116.75
45378	390.77	176.51	-54.83	131.31	237.26
62270	57.43	84.14	46.50	71.30	99.28
70220	18.48	14.40	-22.09	10.45	19.83
70260	21.93	17.60	-19.72	13.09	23.68
71010	12.85	13.40	4.24	9.37	19.16
71020	14.20	15.93	12.14	11.38	22.29
72100	16.21	16.08	-0.75	11.88	21.78
73510	15.55	12.05	-22.49	8.46	17.16
73560	12.14	7.36	-39.41	4.51	12.00

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-5 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
74240	30.37	34.21	12.63	28.04	41.73
74290	19.11	18.30	-4.23	13.34	25.10
76091	28.54	37.57	31.65	27.78	50.81
76700	53.14	45.49	-14.39	34.80	59.47
90020-GP	39.74	94.60	138.04	79.25	112.92
90020-CAR	65.06	119.30	83.37	94.78	150.17
90020-DRM	36.20	93.44	158.13	72.24	120.87
90020-FP	39.12	98.96	152.98	83.06	117.91
90020-GAS	67.70	129.70	91.58	107.09	157.09
90020-IM	60.66	129.68	113.77	105.91	158.78
90020-NEU	70.66	186.92	164.53	145.99	239.31
90060-GP	19.73	35.25	78.65	26.83	46.31
90060-DRM	23.94	36.50	52.45	30.16	44.16
90060-FP	20.16	35.94	78.28	26.94	47.95
90060-IM	24.75	45.94	85.62	35.80	58.96
90220-GP	47.28	106.81	125.92	88.67	128.68
90220-CAR	68.40	124.81	82.47	101.29	153.78
90220-DRM	63.61	126.16	98.33	101.82	156.32
90220-FP	46.26	120.34	160.15	99.07	146.19
90220-GAS	69.22	139.37	101.34	113.49	171.15
90220-IM	59.22	141.80	139.45	115.48	174.11
90220-NEU	76.06	195.34	156.82	151.39	252.04

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-5 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90260-GP	21.05	40.68	93.24	33.07	50.03
90260-FP	23.27	40.65	74.68	32.43	50.95
90260-GAS	26.18	44.98	71.81	37.44	54.04
90260-IM	24.82	49.28	98.57	41.15	59.03
90292-GP	26.46	51.91	96.18	41.45	65.01
90292-FP	28.22	54.86	94.39	43.64	68.96
90292-IM	31.61	57.83	82.95	46.37	72.12
90620-GP	70.22	97.80	39.27	82.07	116.53
90620-DRM	67.19	112.33	67.18	81.68	154.49
90620-FP	67.48	103.87	53.93	85.75	125.83
90620-GAS	85.87	145.58	69.54	118.69	178.57
90620-IM	84.65	150.75	78.09	122.55	185.44
90620-NEU	88.67	186.42	110.24	144.21	241.00
93010	13.32	17.47	31.09	13.04	23.39
93300	68.56	62.44	-8.93	53.67	72.64
93307	95.97	79.48	-17.19	67.41	93.70
93320	80.40	83.14	3.41	70.71	97.76
93503	287.33	113.92	-60.35	95.80	135.47
93547	605.96	182.59	-69.87	138.64	240.48
93549	812.79	245.64	-69.78	182.36	330.88
95819	38.83	50.41	29.83	38.79	65.53
95860	78.89	121.77	54.35	94.52	156.87

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-5 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
95900	76.04	87.83	15.51	74.42	103.66

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-6

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
AND PRE/POST TIME

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	93	1	93
LTIME	350.61292049	3.7700314031	1384.7792631
LSCOMP	75.428838395	.81106277845	110.54632373
LTIME245	203.76677471	2.1910405883	1098.301141
LPRICE	499.08331295	5.3664872361	2925.838741

## Variables

## Variance

## Std Deviation

INTERCEP	0	0
LTIME	.68432111455	.82723703649
LSCOMP	.53661739656	.73254173708
LTIME245	7.085215946	2.661806895
LPRICE	2.6903751338	1.6402363043

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	213.34210	71.11403	185.212	0.0001
Error	89	34.17241	0.38396		
C Total	92	247.51451			
Root MSE		0.61964	R-Square	0.8619	
Dep Mean		5.36649	Adj R-Sq	0.8573	
C.V.		11.54656			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.858721	0.42714241	4.352	0.0001	0.00000000
LTIME	1	0.664292	0.13516322	4.915	0.0001	0.33502908
LSCOMP	1	0.465831	0.15023962	3.101	0.0026	0.20804375
LTIME245	1	0.285502	0.04189653	6.814	0.0001	0.46331807

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-6 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	43.05	55.98	30.04	42.49	73.76
11402	76.03	62.19	-18.21	47.15	82.03
11404	109.97	99.00	-9.97	80.46	121.82
11441	77.95	99.08	27.10	81.59	120.31
11442	118.15	122.20	3.42	98.25	151.97
14060	523.57	875.66	67.25	694.34	1104.33
15100	406.56	885.44	117.79	639.97	1225.05
17000	33.97	56.39	66.00	44.59	71.32
19240	950.69	1861.69	95.82	1509.68	2295.77
20610	29.81	60.69	103.58	49.04	75.10
27130	2251.71	1978.83	-12.12	1593.31	2457.64
27135	2271.04	3104.72	36.71	2389.22	4034.49
27236	1140.42	1678.95	47.22	1367.56	2061.24
27244	1130.39	1487.23	31.57	1210.22	1827.65
27447	2196.35	2034.11	-7.39	1640.71	2521.83
30903	57.40	83.88	46.13	66.91	105.14
31535	294.67	92.97	-68.45	76.31	113.27
31575	108.54	56.85	-47.62	46.03	70.22
31600	328.52	404.09	23.00	287.44	568.09
32480	1593.72	2320.29	45.59	1825.99	2948.40
33207	1058.47	674.51	-36.27	490.42	927.71
33208	1272.49	1082.41	-14.94	892.57	1312.62

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-6 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	3052.31	5.44	2318.18	4018.93
33512	3713.86	3202.17	-13.78	2388.05	4293.84
33513	3958.52	3399.20	-14.13	2534.64	4558.67
35301	1497.43	1738.88	16.12	1392.42	2171.53
43235	270.66	120.86	-55.34	94.83	154.04
44140	1152.12	2264.42	96.54	1811.78	2830.14
45330	85.76	88.29	2.95	74.56	104.55
45360	196.23	107.88	-45.02	88.95	130.83
45378	362.45	198.69	-45.18	146.83	268.87
47600	798.49	1307.83	63.79	1060.84	1612.31
47610	962.03	1945.93	102.27	1571.21	2410.01
49505	511.30	701.33	37.17	574.68	855.90
50080	1001.55	311.53	-68.89	209.48	463.31
52000	92.58	61.50	-33.57	51.27	73.78
52005	155.05	96.88	-37.52	81.28	115.46
52234	322.36	120.20	-62.71	98.74	146.32
52601	1037.76	1039.77	0.19	839.33	1288.07
53660	19.60	29.68	51.42	21.33	41.29
55821	1146.93	1122.17	-2.16	878.38	1433.61
57520	263.97	53.55	-79.71	43.94	65.25
58100	49.41	44.04	-10.87	34.81	55.71
58120	250.39	214.03	-14.52	149.95	305.51

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-6 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58150	921.56	1235.04	34.02	1015.70	1501.74
58260	953.60	1023.30	7.31	839.53	1247.29
58265	967.06	1483.95	53.45	1217.25	1809.08
61310	1782.00	2479.44	39.14	1962.15	3133.10
61510	2097.95	4344.17	107.07	3248.57	5809.26
62270	54.28	77.80	43.32	62.23	97.25
63005	1464.23	2484.75	69.70	1977.04	3122.83
63030	1237.12	1760.88	42.34	1418.37	2186.11
66170	874.87	1240.32	41.77	943.21	1631.01
66920	1009.42	1103.44	9.31	849.74	1432.88
66940	978.47	1041.95	6.49	773.64	1403.30
66984	1546.25	1234.55	-20.16	917.45	1661.24
66985	942.70	915.41	-2.89	658.78	1272.01
67036	1887.45	1701.80	-9.84	1322.05	2190.64
67107	1507.76	2279.87	51.21	1816.18	2861.94
67226	642.60	179.68	-72.04	125.20	257.87
69631	1134.60	893.53	-21.25	662.64	1204.88
70220	17.16	22.90	33.47	15.80	33.21
70260	21.42	31.08	45.09	21.19	45.58
71020	13.23	30.04	127.03	21.27	42.41
72100	17.22	34.03	97.66	24.02	48.23
73510	16.11	26.91	67.04	17.96	40.33

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-6 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
76516	133.14	86.48	-35.05	68.28	109.54
76517	178.12	89.75	-49.61	68.43	117.71
76700	57.34	62.30	8.65	50.92	76.22
90020-GS	38.06	118.47	211.27	97.51	143.93
90020-ENT	36.49	57.74	58.22	46.13	72.26
90020-NES	56.99	183.98	222.83	139.00	243.52
90020-OBG	41.72	100.27	140.35	83.83	119.94
90020-ORS	42.90	119.30	178.08	97.44	146.05
90020-PS	37.76	78.76	108.59	61.73	100.49
90020-CTS	44.95	128.74	186.41	101.56	163.20
90020-URO	39.05	94.29	141.47	78.05	113.91
90060-PS	23.18	37.55	62.01	28.06	50.27
90220-GS	50.89	134.90	165.08	108.79	167.28
90220-ENT	58.05	78.04	34.43	60.80	100.17
90220-NES	63.39	166.82	163.17	126.75	219.56
90220-OBG	56.74	112.25	97.83	92.44	136.31
90220-OPH	57.07	143.76	151.91	114.54	180.45
90220-ORS	59.30	124.92	110.65	101.67	153.47
90220-PS	62.80	72.04	14.71	53.42	97.15
90220-CTS	60.81	119.26	96.12	96.44	147.49
90220-URO	53.00	101.12	90.79	84.03	121.68
90620-PS	60.91	80.23	31.71	63.56	101.26

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-6 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
92004	35.48	114.49	222.68	93.15	140.71
92100	17.24	102.14	492.48	82.76	126.06
92557	36.97	57.61	55.84	41.57	79.85
93503	244.89	70.41	-71.25	59.35	83.54
95819	32.77	81.13	147.58	56.37	116.76

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-7

## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY AND SURGICAL ADJUSTMENT

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	67		
LTIMETOT	218.2763009	3.2578552374	761.3085119
LSCOMP	42.63279068	.63631030866	40.42472501
LSURG	12.47664925	.18621864552	8.6481542505
LPRICE	270.3988458	4.0358036686	1162.5080166

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIMETOT	.76054426987	.87209189302
LSCOMP	.20147031535	.44885444785
LSURG	.09582984131	.30956395351
LPRICE	1.0792630722	1.0388758695

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	56.81169	18.93723	82.737	0.0001
Error	63	14.41967	0.22888		
C Total	66	71.23136			
Root MSE		0.47842	R-Square	0.7976	
Dep Mean		4.03580	Adj R-Sq	0.7879	
C.V.		11.85434			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.636440	0.30038502	5.448	0.0001	0.00000000
LTIMETOT	1	0.552870	0.12783288	4.325	0.0001	0.46411055
LSCOMP	1	0.548247	0.25597021	2.142	0.0361	0.23687460
LSURG	1	1.338954	0.20543260	6.518	0.0001	0.39898110

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-7 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.70	84.32	112.40	64.01	111.08
11402	65.86	139.53	111.86	110.74	175.81
11404	99.53	222.77	123.82	176.69	280.88
11441	59.06	153.96	160.68	116.51	203.44
11442	77.22	196.94	155.04	149.40	259.62
17000	31.15	84.96	172.75	63.58	113.53
33207	937.21	525.84	-43.89	321.10	861.14
33208	1245.92	702.10	-43.65	447.19	1102.32
43235	279.33	142.34	-49.04	112.94	179.38
43239	322.54	156.22	-51.56	124.03	196.77
45300	35.86	88.02	145.47	64.90	119.37
45330	82.45	115.97	40.65	90.42	148.73
45360	198.07	160.86	-18.79	128.21	201.82
45378	390.77	247.18	-36.74	189.17	322.99
62270	57.43	141.02	145.55	112.00	177.56
70220	18.48	13.20	-28.58	10.28	16.94
70260	21.93	15.21	-30.62	12.07	19.17
71010	12.85	11.80	-8.17	8.93	15.59
71020	14.20	13.57	-4.45	10.43	17.64
72100	16.21	14.48	-10.68	11.43	18.33
73510	15.55	11.67	-24.93	8.86	15.39
73560	12.14	8.32	-31.46	5.65	12.26

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-7 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
74240	30.37	26.84	-11.63	22.86	31.51
74290	19.11	17.07	-10.69	13.34	21.84
76091	28.54	26.62	-6.72	20.81	34.06
76700	53.14	31.57	-40.60	25.25	39.47
90020-GP	39.74	64.99	63.55	55.34	76.33
90020-CAR	65.06	81.01	24.51	66.39	98.83
90020-DRM	36.20	57.46	58.74	45.57	72.46
90020-FP	39.12	67.18	71.72	57.16	78.95
90020-GAS	67.70	83.38	23.17	69.56	99.96
90020-IM	60.66	84.52	39.34	70.17	101.81
90020-NEU	70.66	106.92	51.32	84.34	135.56
90060-GP	19.73	30.01	52.13	24.25	37.15
90060-DRM	23.94	28.43	18.76	24.35	33.19
90060-FP	20.16	30.79	52.74	24.58	38.57
90060-IM	24.75	37.28	50.62	30.62	45.39
90220-GP	47.28	71.98	52.25	60.73	85.32
90220-CAR	68.40	82.62	20.78	68.47	99.69
90220-DRM	63.61	76.47	20.21	62.22	93.98
90220-FP	46.26	79.37	71.56	66.36	94.92
90220-GAS	69.22	89.29	29.00	73.78	108.07
90220-IM	59.22	90.35	52.57	74.59	109.44
90220-NEU	76.06	110.64	45.47	86.69	141.21

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-7 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90260-GP	21.05	32.63	55.00	27.66	38.48
90260-FP	23.27	33.05	42.04	27.65	39.52
90260-GAS	26.18	34.98	33.61	30.11	40.63
90260-IM	24.82	37.86	52.53	32.63	43.93
90292-GP	26.46	40.83	54.30	34.10	48.88
90292-FP	28.22	42.89	51.97	35.70	51.52
90292-IM	31.61	44.65	41.24	37.35	53.36
90620-GP	70.22	66.58	-5.19	56.67	78.21
90620-DRM	67.19	65.20	-2.96	49.17	86.46
90620-FP	67.48	70.79	4.90	59.61	84.07
90620-GAS	85.87	91.79	6.90	75.69	111.31
90620-IM	84.65	94.27	11.37	77.49	114.70
90620-NEU	88.67	105.62	19.12	82.66	134.97
93010	13.32	15.33	15.03	12.21	19.24
93300	68.56	44.60	-34.94	38.88	51.17
93307	95.97	53.13	-44.64	45.40	62.17
93320	80.40	55.40	-31.10	47.39	64.76
93503	287.33	186.29	-35.17	148.36	233.92
93547	605.96	258.26	-57.38	200.01	333.48
93549	812.79	334.13	-58.89	256.47	435.31
95819	38.83	34.39	-11.44	27.56	42.90
95860	78.89	72.27	-8.39	57.14	91.41

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-7 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
95900	76.04	57.87	-23.90	49.29	67.94

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-8

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	93	1	93
LTIME	350.61292049	3.7700314031	1384.7792631
LSCOMP	75.428838395	.81106277845	110.54632373
LTIME245	203.76677471	2.1910405883	1098.301141
LSURG	42.975125195	.46209812037	29.788086863
LPRICE	499.08331295	5.3664872361	2925.838741

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIME	.68432111455	.82723703649
LSCOMP	.53661739656	.73254173708
LTIME245	7.085215946	2.661806895
LSURG	.10792785095	.32852374488
LPRICE	2.6903751338	1.6402363043

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	4	227.19709	56.79927	246.012	0.0001
Error	88	20.31742	0.23088		
C Total	92	247.51451			
Root MSE		0.48050	R-Square	0.9179	
Dep Mean		5.36649	Adj R-Sq	0.9142	
C.V.		8.95371			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.642510	0.33239866	4.941	0.0001	0.00000000
LTIME	1	0.585903	0.10529880	5.564	0.0001	0.29549425
LSCOMP	1	0.538423	0.11687860	4.607	0.0001	0.24046382
LTIME245	1	0.183243	0.03506778	5.225	0.0001	0.29737053
LSURG	1	1.464878	0.18909990	7.747	0.0001	0.29340111

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-8 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	43.05	85.60	98.84	66.55	110.11
11402	76.03	94.49	24.28	73.47	121.53
11404	109.97	153.39	39.49	124.24	189.38
11441	77.95	154.78	98.56	126.15	189.90
11442	118.15	189.70	60.56	152.62	235.78
14060	523.57	814.81	55.63	680.57	975.52
15100	406.56	767.80	88.85	596.71	987.96
17000	33.97	87.84	158.57	69.91	110.36
19240	950.69	1678.04	76.51	1426.26	1974.27
20610	29.81	101.89	241.80	81.13	127.96
27130	2251.71	1746.40	-22.44	1475.94	2066.42
27135	2271.04	2701.39	18.95	2203.97	3311.07
27236	1140.42	1518.67	33.17	1295.28	1780.59
27244	1130.39	1334.31	18.04	1137.14	1565.68
27447	2196.35	1826.67	-16.83	1546.14	2158.10
30903	57.40	128.82	124.43	103.32	160.62
31535	294.67	144.77	-50.87	117.84	177.86
31575	108.54	89.75	-17.32	72.30	111.40
31600	328.52	386.42	17.62	296.62	503.40
32480	1593.72	1951.75	22.47	1618.99	2352.92
33207	1058.47	607.53	-42.60	474.47	777.91
33208	1272.49	1018.17	-19.99	876.54	1182.69

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-8 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	2540.32	-12.25	2049.63	3148.48
33512	3713.86	2638.74	-28.95	2098.73	3317.69
33513	3958.52	2777.85	-29.83	2208.59	3493.84
35301	1497.43	1633.88	9.11	1374.99	1941.50
43235	270.66	201.44	-25.57	157.87	257.04
44140	1152.12	2007.63	74.26	1688.53	2387.04
45330	85.76	142.94	66.67	117.34	174.11
45360	196.23	175.92	-10.35	142.40	217.33
45378	362.45	321.85	-11.20	243.94	424.64
47600	798.49	1239.44	55.22	1053.39	1458.34
47610	962.03	1765.89	83.56	1495.95	2084.53
49505	511.30	693.06	35.55	593.03	809.96
50080	1001.55	477.62	-52.31	341.48	668.04
52000	92.58	100.55	8.61	81.83	123.55
52005	155.05	153.98	-0.69	126.41	187.55
52234	322.36	192.18	-40.38	155.79	237.08
52601	1037.76	959.32	-7.56	812.49	1132.68
53660	19.60	47.28	141.24	35.26	63.41
55821	1146.93	988.15	-13.84	817.03	1195.12
57520	263.97	86.75	-67.14	70.12	107.32
58100	49.41	73.16	48.07	57.63	92.89
58120	250.39	232.63	-7.09	175.87	307.69

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-8 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58150	921.56	1144.45	24.19	983.36	1331.93
58260	953.60	969.75	1.69	831.46	1131.04
58265	967.06	1362.75	40.92	1168.64	1589.10
61310	1782.00	2179.82	22.32	1817.64	2614.17
61510	2097.95	3619.87	72.54	2886.03	4540.29
62270	54.28	131.35	141.99	103.89	166.07
63005	1464.23	2142.61	46.33	1793.54	2559.61
63030	1237.12	1604.87	29.73	1357.01	1898.01
66170	874.87	1227.62	40.32	991.68	1519.69
66920	1009.42	1077.32	6.73	879.05	1320.32
66940	978.47	1035.09	5.79	820.79	1305.34
66984	1546.25	1236.22	-20.05	980.74	1558.24
66985	942.70	929.43	-1.41	719.04	1201.38
67036	1887.45	1604.39	-15.00	1318.79	1951.85
67107	1507.76	2051.98	36.09	1720.18	2447.79
67226	642.60	305.98	-52.38	221.55	422.58
69631	1134.60	798.40	-29.63	633.15	1006.79
70220	17.16	13.95	-18.70	10.27	18.95
70260	21.42	19.97	-6.79	14.64	27.23
71020	13.23	18.83	42.36	14.17	25.02
72100	17.22	21.61	25.51	16.24	28.76
73510	16.11	17.31	7.44	12.49	23.99

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-8 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
76516	133.14	53.06	-60.15	43.03	65.42
76517	178.12	55.79	-68.68	44.23	70.36
76700	57.34	37.65	-34.33	31.18	45.47
90020-GS	38.06	68.68	80.45	56.77	83.08
90020-ENT	36.49	32.70	-10.38	26.44	40.45
90020-NES	56.99	107.34	88.35	83.96	137.23
90020-OBG	41.72	57.61	38.08	48.00	69.14
90020-ORS	42.90	70.11	63.43	57.80	85.04
90020-PS	37.76	43.55	15.33	34.66	54.72
90020-CTS	44.95	71.72	59.56	57.38	89.65
90020-URO	39.05	53.50	37.00	44.22	64.72
90060-PS	23.18	21.43	-7.54	16.59	27.68
90220-GS	50.89	78.23	53.72	63.84	95.85
90220-ENT	58.05	43.05	-25.84	34.12	54.32
90220-NES	63.39	98.88	55.99	77.79	125.69
90220-OBG	56.74	64.01	12.82	52.79	77.62
90220-OPH	57.07	83.53	46.36	67.66	103.12
90220-ORS	59.30	73.04	23.16	60.03	88.86
90220-PS	62.80	39.08	-37.77	29.91	51.06
90220-CTS	60.81	67.24	10.57	54.74	82.59
90220-URO	53.00	57.70	8.88	47.86	69.58
90620-PS	60.91	44.54	-26.87	35.72	55.55

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-8 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
92004	35.48	67.93	91.47	55.95	82.49
92100	17.24	61.39	256.11	50.52	74.61
92557	36.97	31.23	-15.53	23.46	41.57
93503	244.89	114.64	-53.19	93.92	139.95
95819	32.77	52.31	59.62	38.91	70.32

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-9

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	139	1	139
LTIME	501.47242101	3.6077152591	1907.79642223
LSCOMP	109.00256835	0.7841911392	140.82664223
LTIME245	203.95137421	1.4672760735	1100.1852316
LSURG	45.747713917	.32912024401	31.709898919
LPRICE	677.81097971	4.8763379835	3653.6755186

## Variables Variance Std Deviation

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIME	.71468635503	.84539124376
LSCOMP	.40107097142	.63330164331
LTIME245	5.8038569573	2.4091195399
LSURG	.12067681269	.34738568291
LPRICE	2.5249282071	1.5890022678

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	4	318.91619	79.72905	361.866	0.0001
Error	134	29.52390	0.22033		
C Total	138	348.44009			
Root MSE		0.46939	R-Square	0.9153	
Dep Mean		4.87634	Adj R-Sq	0.9127	
C.V.		9.62589			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.716469	0.24153086	7.107	0.0001	0.00000000
LTIME	1	0.547419	0.08206529	6.671	0.0001	0.29124113
LSCOMP	1	0.489545	0.11044507	4.432	0.0001	0.19510963
LTIME245	1	0.209780	0.02692194	7.792	0.0001	0.31805197
LSURG	1	1.498651	0.15057506	9.953	0.0001	0.32763322

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.77	97.82	145.93	79.64	120.14
11402	69.96	136.23	94.74	113.87	162.99
11404	107.38	172.05	60.22	142.47	207.77
11441	60.36	172.25	185.35	141.21	210.10
11442	81.56	216.30	165.20	177.24	263.95
14060	523.57	824.51	57.48	691.52	983.06
15100	406.56	796.46	95.90	626.60	1012.37
17000	31.18	98.05	214.44	79.01	121.68
19240	950.69	1641.64	72.68	1403.66	1919.96
20610	29.81	98.54	230.55	81.58	119.02
27130	2251.71	1707.26	-24.18	1455.64	2002.39
27135	2271.04	2565.88	12.98	2146.55	3067.13
27236	1140.42	1495.87	31.17	1281.92	1745.52
27244	1130.39	1329.80	17.64	1138.79	1552.85
27447	2196.35	1775.07	-19.18	1515.40	2079.23
30903	57.40	123.34	114.88	97.98	155.27
31535	294.67	137.18	-53.45	111.69	168.48
31575	108.54	88.16	-18.77	70.73	109.89
31600	328.52	413.58	25.89	331.24	516.39
32480	1593.72	1919.80	20.46	1610.04	2289.15
33207	1010.33	728.40	-27.90	597.42	888.10
33208	1263.16	1101.64	-12.79	948.23	1279.88

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	2447.10	-15.47	2024.07	2958.54
33512	3713.86	2536.89	-31.69	2077.08	3098.48
33513	3958.52	2670.29	-32.54	2185.64	3262.42
35301	1497.40	1586.11	5.92	1344.42	1871.24
43235	278.47	164.13	-41.06	136.81	196.91
43239	322.40	176.66	-45.20	147.09	212.18
44140	1152.12	1945.97	68.90	1652.87	2291.06
45300	35.85	103.42	188.53	86.12	124.21
45330	83.03	133.91	61.27	112.38	159.57
45360	197.46	177.75	-9.98	148.51	212.74
45378	382.56	276.43	-27.74	224.25	340.75
47600	798.49	1225.74	53.51	1048.76	1432.57
47610	962.03	1717.60	78.54	1465.64	2012.88
49505	511.30	701.52	37.20	606.93	810.86
50080	1001.55	412.84	-58.78	323.05	527.58
52000	92.58	97.59	5.41	81.01	117.56
52005	155.05	144.92	-6.54	120.60	174.14
52234	322.36	177.67	-44.88	148.44	212.66
52601	1037.76	972.13	-6.32	831.77	1136.17
53660	19.60	48.79	148.95	37.00	64.34
55821	1146.93	1015.07	-11.50	851.95	1209.43
57520	263.97	85.24	-67.71	69.79	104.10

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58100	49.41	72.68	47.10	59.25	89.16
58120	250.39	249.35	-0.42	201.55	308.48
58150	920.97	1136.36	23.39	980.05	1317.59
58260	953.60	972.92	2.03	840.51	1126.18
58265	967.06	1339.14	38.48	1154.59	1553.18
61310	1782.00	2114.21	18.64	1776.62	2515.95
61510	2097.95	3421.28	63.08	2804.35	4173.93
62270	57.14	157.27	175.22	131.38	188.26
63005	1464.23	2085.95	42.46	1762.72	2468.44
63030	1237.04	1576.40	27.43	1339.65	1854.98
66170	874.87	1207.72	38.05	988.62	1475.37
66920	1009.42	1074.59	6.46	890.73	1296.40
66940	978.47	1033.77	5.65	836.72	1277.23
66984	1546.25	1213.51	-21.52	977.26	1506.86
66985	942.70	931.82	-1.15	740.37	1172.78
67036	1887.45	1566.99	-16.98	1297.49	1892.46
67107	1507.76	1976.62	31.10	1676.43	2330.55
67226	642.60	271.17	-57.80	211.10	348.33
69631	1134.60	815.47	-28.13	650.99	1021.52
70220	18.48	14.34	-22.37	11.44	17.98
70260	21.93	16.38	-25.31	13.18	20.34
71010	12.85	12.79	-0.48	9.84	16.63

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY,  
PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT--4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
71020	14.20	14.64	3.13	11.45	18.72
72100	16.21	15.66	-3.41	12.64	19.39
73510	15.55	12.80	-17.70	10.12	16.19
73560	12.14	9.35	-23.00	7.14	12.25
74240	30.37	28.26	-6.95	24.43	32.68
74290	19.11	18.50	-3.20	15.46	22.14
76091	28.54	27.70	-2.94	22.84	33.60
76516	133.14	48.68	-63.44	42.22	56.13
76517	178.12	50.92	-71.41	43.12	60.14
76700	53.16	32.67	-38.53	27.54	38.77
90020-GP	39.74	66.30	66.82	58.66	74.92
90020-GS	38.06	62.08	63.12	55.12	69.93
90020-ENT	36.49	31.40	-13.96	26.30	37.49
90020-CAR	65.06	82.18	26.32	70.90	95.26
90020-DRM	36.20	57.98	60.16	50.02	67.21
90020-FP	39.12	68.38	74.80	60.40	77.42
90020-GAS	67.70	84.00	24.08	72.88	96.83
90020-IM	60.66	85.27	40.57	73.73	98.60
90020-NEU	70.66	105.76	49.67	89.35	125.17
90020-NES	56.99	93.65	64.32	80.21	109.34
90020-OBG	41.72	52.84	26.66	46.74	59.74
90020-ORS	42.90	63.20	47.31	56.11	71.18

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90020-PS	37.76	40.98	8.52	33.70	49.83
90020-CTS	44.95	64.86	44.29	55.16	76.26
90020-URO	39.05	49.41	26.54	42.96	56.83
90060-GP	19.73	31.85	61.43	28.08	36.13
90060-DRM	23.94	29.88	24.82	26.01	34.33
90060-FP	20.16	32.68	62.12	28.79	37.10
90060-IM	24.75	39.18	58.30	34.88	44.01
90060-PS	23.18	21.25	-8.31	17.16	26.32
90220-GP	47.28	73.12	54.65	64.18	83.30
90220-GS	50.89	70.00	37.55	61.72	79.38
90220-ENT	58.05	40.55	-30.14	33.18	49.57
90220-CAR	68.40	83.53	22.13	72.27	96.55
90220-DRM	63.61	76.62	20.45	66.50	88.27
90220-FP	46.26	80.27	73.52	69.86	92.24
90220-GAS	69.22	89.81	29.74	77.29	104.36
90220-IM	59.22	90.79	53.32	78.07	105.59
90220-NEU	76.06	109.24	43.62	91.94	129.80
90220-NES	63.39	86.70	36.77	74.23	101.26
90220-OBG	56.74	58.28	2.71	51.16	66.38
90220-OPH	57.07	74.35	30.27	65.27	84.69
90220-ORS	59.30	65.65	10.72	58.18	74.09
90220-PS	62.80	37.15	-40.84	29.18	47.30

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME,  
COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90220-CTS	60.81	61.04	0.38	52.82	70.54
90220-URO	53.00	52.96	-0.08	46.50	60.32
90260-GP	21.05	34.33	63.07	30.49	38.64
90260-FP	23.27	34.82	49.64	30.95	39.18
90260-GAS	26.18	36.62	39.87	32.62	41.10
90260-IM	24.82	39.52	59.22	35.34	44.19
90292-GP	26.46	42.68	61.30	38.14	47.76
90292-FP	28.22	44.76	58.61	39.97	50.12
90292-IM	31.61	46.49	47.08	41.54	52.03
90620-GP	70.22	67.81	-3.44	59.92	76.73
90620-DRM	67.19	65.18	-2.99	55.25	76.90
90620-FP	67.48	72.02	6.73	63.24	82.03
90620-GAS	85.87	92.10	7.25	79.12	107.20
90620-IM	84.65	94.45	11.58	80.93	110.23
90620-NEU	88.67	104.38	17.71	88.16	123.58
90620-PS	60.91	41.82	-31.34	34.72	50.38
92004	35.48	61.33	72.86	54.34	69.22
92100	17.24	55.80	223.66	49.25	63.22
92557	36.97	30.21	-18.27	23.21	39.32
93010	13.33	16.54	24.11	13.40	20.41
93300	68.56	46.02	-32.87	41.11	51.51
93307	95.97	54.22	-43.51	48.07	61.15

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-9 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: POOLED SPECIALTIES WITH PROCEDURE TIME, COMPLEXITY, PRE/POST TIME, AND SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
93320	80.40	56.47	-29.77	50.10	63.64
93503	284.40	203.29	-28.52	169.36	244.01
93547	605.96	284.81	-53.00	231.05	351.09
93549	812.79	365.06	-55.09	290.86	458.18
95819	38.62	35.92	-6.99	30.39	42.46
95860	78.89	72.31	-8.34	62.31	83.92
95900	76.04	58.86	-22.59	52.13	66.45

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME ONLY

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	67		
LTIME	215.8391277	3.221479518	736.83047927
LPRICE	270.3988458	4.0358036686	1162.5080166

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIME	.62892651805	.79304887494
LPRICE	1.0792630722	1.0388758695

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	37.87068	37.87068	73.787	0.0001
Error	65	33.36068	0.51324		
C Total	66	71.23136			
Root MSE		0.71641	R-Square	0.5317	
Dep Mean		4.03580	Adj R-Sq	0.5245	
C.V.		17.75132			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	0.958750	0.36875272	2.600	0.0115	0.00000000
LTIME	1	0.955168	0.11119592	8.590	0.0001	0.72914844

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-10 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.70	43.33	9.14	34.77	54.00
11402	65.86	89.04	35.20	74.52	106.39
11404	99.53	143.07	43.74	114.08	179.42
11441	59.06	79.32	34.30	66.59	94.48
11442	77.22	106.27	37.62	87.87	128.52
17000	31.15	41.42	32.95	33.02	51.95
33207	937.21	203.86	-78.25	153.17	271.33
33208	1245.92	287.35	-76.94	202.00	408.77
43235	279.33	85.85	-69.27	71.95	102.43
43239	322.54	94.16	-70.81	78.58	112.84
45300	35.86	61.95	72.78	51.65	74.32
45330	82.45	76.28	-7.49	64.04	90.85
45360	198.07	101.03	-48.99	83.90	121.66
45378	390.77	143.56	-63.26	114.41	180.12
62270	57.43	86.44	50.52	72.43	103.17
70220	18.48	17.62	-4.63	11.99	25.90
70260	21.93	19.47	-11.20	13.52	28.03
71010	12.85	13.58	5.66	8.75	21.08
71020	14.20	15.78	11.10	10.49	23.73
72100	16.21	19.61	21.02	13.64	28.20
73510	15.55	16.30	4.84	10.92	24.35
73560	12.14	13.25	9.14	8.49	20.68

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
74240	30.37	38.94	28.21	30.75	49.31
74290	19.11	27.42	43.51	20.38	36.91
76091	28.54	31.00	8.61	23.56	40.79
76700	53.14	38.81	-26.96	30.64	49.17
90020-GP	39.74	118.91	199.22	97.18	145.50
90020-CAR	65.06	164.23	152.43	128.15	210.46
90020-DRM	36.20	77.49	114.06	65.06	92.29
90020-FP	39.12	122.12	212.18	99.49	149.91
90020-GAS	67.70	153.19	126.27	120.88	194.12
90020-IM	60.66	161.10	165.58	126.11	205.81
90020-NEU	70.66	177.35	150.99	136.61	230.24
90060-GP	19.73	55.20	179.77	45.59	66.83
90060-DRM	23.94	42.00	75.43	33.55	52.58
90060-FP	20.16	58.22	188.77	48.31	70.15
90060-IM	24.75	70.21	183.69	58.87	83.74
90220-GP	47.28	134.14	183.71	107.95	166.68
90220-CAR	68.40	160.57	134.75	125.76	205.01
90220-DRM	63.61	118.00	85.51	96.52	144.27
90220-FP	46.26	149.52	223.23	118.44	188.77
90220-GAS	69.22	169.45	144.80	131.54	218.29
90220-IM	59.22	170.64	188.15	132.31	220.08
90220-NEU	76.06	183.33	141.04	140.40	239.39

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-10 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90260-GP	21.05	55.51	163.72	45.88	67.17
90260-FP	23.27	58.31	150.60	48.40	70.26
90260-GAS	26.18	58.05	121.73	48.16	69.97
90260-IM	24.82	64.09	158.21	53.53	76.73
90292-GP	26.46	75.90	186.84	63.72	90.40
90292-FP	28.22	80.98	186.98	67.97	96.49
90292-IM	31.61	84.04	165.86	70.48	100.21
90620-GP	70.22	121.14	72.51	98.78	148.55
90620-DRM	67.19	83.74	24.63	70.23	99.84
90620-FP	67.48	133.75	98.20	107.68	166.13
90620-GAS	85.87	171.11	99.27	132.61	220.79
90620-IM	84.65	175.43	107.24	135.38	227.32
90620-NEU	88.67	170.48	92.27	132.21	219.84
93010	13.32	20.35	52.73	14.26	29.03
93300	68.56	71.24	3.90	59.76	84.92
93307	95.97	81.63	-14.94	68.51	97.28
93320	80.40	86.61	7.73	72.57	103.37
93503	287.33	127.36	-55.67	103.21	157.16
93547	605.96	157.12	-74.07	123.49	199.91
93549	812.79	217.30	-73.26	161.34	292.68
95819	38.83	42.86	10.39	34.34	53.50
95860	78.89	103.27	30.90	85.61	124.58

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-10 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
95900	76.04	90.62	19.17	75.78	108.36

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	93	1	93
LTIME	350.61292049	3.7700314031	1384.7792631
LPRICE	499.08331295	5.3664872361	2925.838741

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIME	.68432111455	.82723703649
LPRICE	2.6903751338	1.6402363043

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	1	178.84709	178.84709	237.013	0.0001
Error	91	68.66742	0.75459		
C Total	92	247.51451			
Root MSE		0.86867	R-Square	0.7226	
Dep Mean		5.36649	Adj R-Sq	0.7195	
C.V.		16.18693			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	-0.987730	0.42245416	-2.338	0.0216	0.00000000
LTIME	1	1.685455	0.10947899	15.395	0.0001	0.85004244

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-11 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	43.05	119.58	177.77	96.48	148.21
11402	76.03	147.58	94.10	120.72	180.42
11404	109.97	241.00	119.16	201.08	288.86
11441	77.95	223.50	186.72	186.15	268.35
11442	118.15	320.71	171.44	268.11	383.63
14060	523.57	832.51	59.01	666.61	1039.70
15100	406.56	901.81	121.81	717.58	1133.33
17000	33.97	101.74	199.49	81.09	127.64
19240	950.69	1409.60	48.27	1078.01	1843.18
20610	29.81	56.50	89.53	42.70	74.75
27130	2251.71	1838.06	-18.37	1369.07	2467.72
27135	2271.04	3380.05	48.83	2357.71	4845.68
27236	1140.42	1209.87	6.09	938.64	1559.48
27244	1130.39	1055.35	-6.64	828.79	1343.83
27447	2196.35	1689.45	-23.08	1269.20	2248.85
30903	57.40	205.70	258.36	170.89	247.60
31535	294.67	210.03	-28.72	174.61	252.64
31575	108.54	91.04	-16.13	71.91	115.26
31600	328.52	208.71	-36.47	173.47	251.10
32480	1593.72	2300.93	44.37	1674.01	3162.63
33207	1058.47	611.79	-42.20	500.28	748.16
33208	1272.49	804.53	-36.78	645.87	1002.16

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-11 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	3986.29	37.71	2729.29	5822.21
33512	3713.86	4669.51	25.73	3139.70	6944.73
33513	3958.52	4803.68	21.35	3219.38	7167.64
35301	1497.43	1136.77	-24.09	886.91	1457.02
43235	270.66	163.47	-39.60	134.47	198.72
44140	1152.12	1895.08	64.49	1407.11	2552.27
45330	85.76	136.00	58.59	110.69	167.10
45360	196.23	169.77	-13.49	139.92	205.99
45378	362.45	436.40	20.40	362.56	525.29
47600	798.49	759.01	-4.94	611.94	941.43
47610	962.03	1484.74	54.33	1129.78	1951.21
49505	511.30	463.34	-9.38	384.10	558.92
50080	1001.55	1390.73	38.86	1064.96	1816.15
52000	92.58	73.61	-20.49	57.06	94.95
52005	155.05	184.40	18.93	152.56	222.90
52234	322.36	238.36	-26.06	198.82	285.75
52601	1037.76	645.04	-37.84	525.77	791.36
53660	19.60	32.68	66.75	23.33	45.79
55821	1146.93	671.28	-41.47	545.78	825.65
57520	263.97	65.64	-75.14	50.34	85.58
58100	49.41	39.21	-20.64	28.54	53.87
58120	250.39	79.58	-68.22	62.13	101.93

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-11 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58150	921.56	1045.27	13.42	821.56	1329.89
58260	953.60	656.62	-31.14	534.61	806.47
58265	967.06	1323.82	36.89	1018.48	1720.70
61310	1782.00	1778.25	-0.21	1329.00	2379.35
61510	2097.95	4484.28	113.75	3029.22	6638.28
62270	54.28	76.75	41.40	59.73	98.63
63005	1464.23	2078.88	41.98	1528.79	2826.90
63030	1237.12	1111.04	-10.19	868.60	1421.14
66170	874.87	511.10	-41.58	421.93	619.11
66920	1009.42	443.05	-56.11	367.89	533.57
66940	978.47	351.02	-64.13	293.17	420.28
66984	1546.25	467.11	-69.79	387.10	563.65
66985	942.70	265.53	-71.83	221.87	317.77
67036	1887.45	851.82	-54.87	680.86	1065.69
67107	1507.76	1905.60	26.39	1414.12	2567.91
67226	642.60	237.46	-63.05	198.06	284.70
69631	1134.60	1051.65	-7.31	826.14	1338.72
70220	17.16	13.65	-20.46	8.82	21.13
70260	21.42	12.95	-39.53	8.32	20.17
71020	13.23	15.43	16.65	10.11	23.55
72100	17.22	16.44	-4.51	10.86	24.90
73510	16.11	10.40	-35.46	6.50	16.62

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## EXHIBIT B-11 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
76516	133.14	86.91	-34.72	68.38	110.47
76517	178.12	81.27	-54.38	63.56	103.90
76700	57.34	62.18	8.44	47.44	81.50
90020-GS	38.06	231.55	508.39	193.02	277.77
90020-ENT	36.49	101.65	178.58	81.02	127.54
90020-NES	56.99	411.92	622.79	342.84	494.92
90020-OBG	41.72	197.86	374.27	164.15	238.50
90020-ORS	42.90	206.00	380.18	171.15	247.95
90020-PS	37.76	199.07	427.20	165.19	239.90
90020-CTS	44.95	377.36	739.50	314.76	452.40
90020-URO	39.05	203.32	420.65	168.84	244.83
90060-PS	23.18	50.95	119.81	38.11	68.11
90220-GS	50.89	278.46	447.19	232.78	333.11
90220-ENT	58.05	200.59	245.55	166.50	241.66
90220-NES	63.39	308.89	387.29	258.28	369.43
90220-OBG	56.74	249.35	339.46	208.17	298.67
90220-OPH	57.07	299.82	425.35	250.70	358.56
90220-ORS	59.30	230.92	289.41	192.48	277.03
90220-PS	62.80	208.71	232.33	173.47	251.10
90220-CTS	60.81	302.67	397.73	253.08	361.97
90220-URO	53.00	213.09	302.06	177.23	256.21
90620-PS	60.91	196.72	222.97	163.17	237.17

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-11 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE TIME ONLY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
92004	35.48	177.58	400.51	146.67	215.01
92100	17.24	133.71	675.61	108.71	164.47
92557	36.97	152.35	312.10	124.85	185.92
93503	244.89	93.00	-62.02	73.59	117.54
95819	32.77	50.04	52.70	37.36	67.02

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME,  
COMPLEXITY, AND "DUAL" SURGICAL ADJUSTMENT

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	67		67
LTIMETOT	218.2763009	3.2578552374	761.3085119
LSCOMP	42.63279068	.63631030866	40.42472501
LOR	1.3862943611	.02069096061	96090602784
LDX	11.090354889	.16552768491	7.6872482227
LPRICE	270.3988458	4.0358036686	1162.5080166

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIMETOT	.76054426987	.87209189302
LSCOMP	.20147031535	.44885444785
LOR	.01412457979	.11884687537
LDX	0.0886589008	.29775644545
LPRICE	1.0792630722	1.0388758695

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	4	58.62350	14.65587	72.071	0.0001
Error	62	12.60787	0.20335		
C Total	66	71.23136			
Root MSE		0.45095	R-Square	0.8230	
Dep Mean		4.03580	Adj R-Sq	0.8116	
C.V.		11.17365			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	2.330332	0.36634275	6.361	0.0001	0.00000000
LTIMETOT	1	0.251112	0.15728492	1.597	0.1155	0.21079792
LSCOMP	1	1.001354	0.28505292	3.513	0.0008	0.43264267
LOR	1	3.041490	0.60235389	5.049	0.0001	0.34794487
LDX	1	1.131425	0.20573995	5.499	0.0001	0.32428225

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME, COMPLEXITY, AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.70	85.15	114.47	65.64	110.44
11402	65.86	120.55	83.04	95.17	152.70
11404	99.53	194.40	95.32	153.77	245.77
11441	59.06	158.17	167.80	121.48	205.93
11442	77.22	196.57	154.55	151.48	255.08
17000	31.15	89.48	187.25	67.87	117.96
33207	937.21	1003.30	7.05	529.30	1901.76
33208	1245.92	1419.10	13.90	748.67	2689.93
43235	279.33	128.70	-53.93	102.61	161.42
43239	322.54	141.75	-56.05	113.14	177.58
45300	35.86	69.31	93.30	50.04	96.01
45330	82.45	97.23	17.92	74.98	126.08
45360	198.07	141.38	-28.62	112.51	177.66
45378	390.77	234.43	-40.01	181.86	302.19
62270	57.43	125.84	119.11	100.16	158.10
70220	18.48	14.62	-20.88	11.42	18.72
70260	21.93	17.51	-20.16	13.77	22.26
71010	12.85	14.66	14.09	10.82	19.86
71020	14.20	16.79	18.23	12.58	22.42
72100	16.21	15.90	-1.90	12.59	20.07
73510	15.55	12.43	-20.06	9.54	16.20
73560	12.14	7.90	-34.96	5.47	11.39

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME,  
COMPLEXITY, AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
74240	30.37	28.48	-6.23	24.32	33.36
74290	19.11	16.46	-13.88	13.04	20.78
76091	28.54	33.63	17.84	25.33	44.66
76700	53.14	38.40	-27.74	29.86	49.38
90020-GP	39.74	59.01	48.50	50.17	69.42
90020-CAR	65.06	68.28	4.94	54.98	84.78
90020-DRM	36.20	66.22	82.93	52.04	84.27
90020-FP	39.12	61.37	56.88	52.21	72.14
90020-GAS	67.70	76.07	12.37	63.56	91.04
90020-IM	60.66	74.92	23.50	61.92	90.65
90020-NEU	70.66	106.65	50.93	85.26	133.39
90060-GP	19.73	26.48	34.19	21.34	32.85
90060-DRM	23.94	29.79	24.45	25.62	34.64
90060-FP	20.16	26.59	31.91	21.10	33.51
90060-IM	24.75	32.49	31.28	26.48	39.87
90220-GP	47.28	64.63	36.69	54.35	76.85
90220-CAR	68.40	72.05	5.34	59.19	87.71
90220-DRM	63.61	79.90	25.61	65.57	97.36
90220-FP	46.26	70.86	53.18	59.04	85.05
90220-GAS	69.22	79.57	14.95	65.57	96.55
90220-IM	59.22	80.85	36.52	66.64	98.07
90220-NEU	76.06	110.57	45.37	87.84	139.17

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-12 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SPECIALISTS WITH TOTAL TIME,  
COMPLEXITY, AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90260-GP	21.05	30.70	45.82	26.17	36.00
90260-FP	23.27	30.23	29.89	25.33	36.07
90260-GAS	26.18	33.64	28.50	29.17	38.80
90260-IM	24.82	35.93	44.77	31.14	41.46
90292-GP	26.46	36.06	36.29	29.93	43.45
90292-FP	28.22	37.47	32.78	30.91	45.42
90292-IM	31.61	39.16	23.88	32.48	47.20
90620-GP	70.22	60.76	-13.47	51.70	71.41
90620-DRM	67.19	78.42	16.71	58.32	105.45
90620-FP	67.48	62.82	-6.90	52.58	75.07
90620-GAS	85.87	83.03	-3.31	68.54	100.58
90620-IM	84.65	85.47	0.97	70.39	103.79
90620-NEU	88.67	107.61	21.36	85.34	135.70
93010	13.32	17.14	28.63	13.62	21.56
93300	68.56	44.57	-34.99	39.15	50.74
93307	95.97	55.06	-42.63	47.33	64.05
93320	80.40	56.70	-29.48	48.86	65.79
93503	287.33	153.80	-46.47	120.14	196.88
93547	605.96	236.40	-60.99	184.70	302.55
93549	812.79	292.47	-64.02	224.87	380.38
95819	38.83	41.49	6.86	32.42	53.11
95860	78.89	80.13	1.57	63.41	101.25

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-12 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS:		MEDICAL SPECIALISTS WITH TOTAL TIME,		
COMPLEXITY, AND "DUAL" SURGICAL ADJUSTMENT				
CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE INTERVAL LOWER UPPER
95900	76.04	59.24	-22.10	50.84 69.02

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	93	1	93
LTIME	350.61292049	3.7700314031	1384.7792631
LSCOMP	75.428838395	.81106277845	110.54632373
LTIME245	203.76677471	2.1910405883	1098.301141
LOR	28.419034403	.30558101509	19.698573571
LDX	14.556090792	.15651710529	10.089513292
LPRICE	499.08331295	5.3664872361	2925.838741

## Variables Variance Std Deviation

INTERCEP	0	0
LTIME	.684332111455	.82723703649
LSCOMP	.53661739656	.73254173708
LTIME245	7.085215946	2.661806895
LOR	.11972017598	0.3460060346
LDX	.08490474019	.29138417971
LPRICE	2.6903751338	1.6402363043

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	5	229.78046	45.95609	225.452	0.0001
Error	87	17.73406	0.20384		
C Total	92	247.51451			
Root MSE		0.45149	R-Square	0.9284	
Dep Mean		5.36649	Adj R-Sq	0.9242	
C.V.		8.41307			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.850791	0.31776036	5.824	0.0001	0.00000000
LTIME	1	0.529908	0.10018309	5.289	0.0001	0.26725410
LSCOMP	1	0.461713	0.11191526	4.126	0.0001	0.20620439
LTIME245	1	0.084776	0.04302053	1.971	0.0519	0.13757628
LOR	1	2.484475	0.33704373	7.371	0.0001	0.52409725
LDX	1	1.268173	0.18607486	6.815	0.0001	0.22528793

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up





EXHIBIT B-13 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	43.05	78.26	81.79	61.52	99.55
11402	76.03	85.48	12.42	67.12	108.85
11404	109.97	130.54	18.71	105.28	161.86
11441	77.95	131.39	68.56	106.48	162.13
11442	118.15	157.36	33.18	125.44	197.40
14060	523.57	910.57	73.92	758.71	1092.82
15100	406.56	839.70	106.54	658.22	1071.23
17000	33.97	79.80	134.92	64.06	99.41
19240	950.69	1630.33	71.49	1398.90	1900.04
20610	29.81	89.77	201.13	71.78	112.26
27130	2251.71	1692.80	-24.82	1444.65	1983.57
27135	2271.04	2462.51	8.43	2023.06	2997.42
27236	1140.42	1495.20	31.11	1287.51	1736.38
27244	1130.39	1332.51	17.88	1146.48	1548.74
27447	2196.35	1760.35	-19.85	1504.05	2060.32
30903	57.40	112.10	95.30	90.03	139.58
31535	294.67	287.99	-2.27	186.30	445.19
31575	108.54	81.14	-25.24	65.83	100.01
31600	328.52	469.19	42.82	356.85	616.91
32480	1593.72	1824.72	14.49	1526.51	2181.17
33207	1058.47	695.71	-34.27	543.81	890.05
33208	1272.49	1087.70	-14.52	938.80	1260.23

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



EXHIBIT B-13 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT				
CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE INTERVAL LOWER UPPER
33405	2894.79	2314.79	-20.04	1882.34 2846.59
33512	3713.86	2397.29	-35.45	1923.27 2988.16
33513	3958.52	2488.47	-37.14	1992.14 3108.46
35301	1497.43	1610.74	7.57	1369.67 1894.24
43235	270.66	163.86	-39.46	127.15 211.18
44140	1152.12	1896.38	64.60	1608.46 2235.84
45330	85.76	121.73	41.94	99.34 149.18
45360	196.23	145.98	-25.61	116.98 182.17
45378	362.45	248.85	-31.34	185.38 334.06
47600	798.49	1268.45	58.86	1087.36 1479.70
47610	962.03	1709.30	77.68	1461.89 1998.58
49505	511.30	797.33	55.94	673.27 944.24
50080	1001.55	826.62	-17.47	530.27 1288.57
52000	92.58	89.14	-3.72	72.77 109.20
52005	155.05	130.40	-15.90	106.27 160.00
52234	322.36	367.94	14.14	242.16 559.05
52601	1037.76	1011.26	-2.55	861.61 1186.89
53660	19.60	46.06	135.00	34.95 60.69
55821	1146.93	1010.56	-11.89	844.35 1209.49
57520	263.97	78.39	-70.30	63.78 96.35
58100	49.41	67.17	35.94	53.47 84.38
58120	250.39	136.69	-45.41	92.38 202.26

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-13 (continued)

## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58150	921.56	1203.21	30.56	1039.12	1393.21
58260	953.60	1036.80	8.73	891.48	1205.82
58265	967.06	1394.54	44.20	1205.50	1613.23
61310	1782.00	2003.63	12.44	1681.01	2388.17
61510	2097.95	3079.21	46.77	2449.24	3871.23
62270	54.28	112.17	106.65	88.67	141.90
63005	1464.23	1976.54	34.99	1664.93	2346.46
63030	1237.12	1558.53	25.98	1330.78	1825.27
66170	874.87	1255.54	43.51	1026.45	1535.76
66920	1009.42	1113.93	10.35	918.63	1350.74
66940	978.47	1072.91	9.65	861.39	1336.38
66984	1546.25	1262.88	-18.33	1015.19	1571.00
66985	942.70	979.55	3.91	767.61	1249.99
67036	1887.45	1559.43	-17.38	1296.73	1875.35
67107	1507.76	1946.38	29.09	1646.41	2301.00
67226	642.60	548.21	-14.69	349.68	859.47
69631	1134.60	890.10	-21.55	708.63	1118.04
70220	17.16	15.81	-7.87	11.74	21.29
70260	21.42	21.48	0.29	15.99	28.86
71020	13.23	20.49	54.89	15.61	26.91
72100	17.22	23.08	34.05	17.58	30.30
73510	16.11	18.94	17.56	13.87	25.87

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-13 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE  
COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
76516	133.14	51.23	-61.52	42.06	62.41
76517	178.12	53.43	-70.01	42.92	66.50
76700	57.34	37.97	-33.78	31.80	45.35
90020-GS	38.06	64.95	70.65	54.22	77.81
90020-ENT	36.49	33.92	-7.05	27.73	41.49
90020-NES	56.99	96.16	68.73	75.84	121.92
90020-OBG	41.72	55.72	33.55	46.92	66.17
90020-ORS	42.90	65.98	53.81	54.92	79.28
90020-PS	37.76	43.84	16.10	35.37	54.34
90020-CTS	44.95	67.95	51.17	55.03	83.91
90020-URO	39.05	52.32	33.97	43.74	62.57
90060-PS	23.18	23.34	0.71	18.24	29.87
90220-GS	50.89	72.84	43.14	60.00	88.42
90220-ENT	58.05	43.42	-25.21	34.88	54.03
90220-NES	63.39	89.20	40.72	70.79	112.40
90220-OBG	56.74	61.22	7.90	51.03	73.45
90220-OPH	57.07	77.15	35.18	63.06	94.38
90220-ORS	59.30	68.47	15.46	56.81	82.52
90220-PS	62.80	39.98	-36.33	31.08	51.44
90220-CTS	60.81	64.06	5.34	52.74	77.81
90220-URO	53.00	55.87	5.41	46.84	66.64
90620-PS	60.91	44.69	-26.63	36.31	55.00

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure  
time and complexity estimates were calculated from the Physicians' Practice Follow-up  
Survey.





EXHIBIT B-13 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SPECIALISTS WITH PROCEDURE COMPLEXITY, PRE/POST TIME AND "DUAL" SURGICAL ADJUSTMENT

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
92004	35.48	64.07	80.58	53.28	77.04
92100	17.24	58.47	239.16	48.62	70.31
92557	36.97	32.82	-11.23	25.03	43.03
93503	244.89	100.13	-59.11	82.00	122.28
95819	32.77	50.16	53.06	37.96	66.28

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SERVICES WITH TOTAL TIME AND COMPLEXITY

## Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	73	1	73
LTIME	236.18279333	3.2353807305	802.6360955
LSCOMP	36.294965329	.49719130587	34.080421643
LPRICE	272.36111195	3.7309741363	1041.2512603

Variables	Variance	Std Deviation
INTERCEP	0	0
LTIME	.53465051499	.73119799985
LSCOMP	0.2227066727	.47191807838
LPRICE	.34831938702	.590185589192

## Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	2	15.50059	7.75029	56.640	0.0001
Error	70	9.57841	0.13683		
C Total	72	25.07900			
Root MSE		0.36991	R-Square	0.6181	
Dep Mean		3.73097	Adj R-Sq	0.6072	
C.V.		9.91460			

## Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	2.177600	0.22909165	9.505	0.0001	0.000000000
LTIME	1	0.414552	0.08118972	5.106	0.0001	0.51360037
LSCOMP	1	0.426678	0.12579676	3.392	0.0011	0.34117571

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-14 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SERVICES WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
70220	18.48	17.75	-3.95	14.47	21.77
70260	21.93	19.79	-9.74	16.27	24.07
71010	12.85	16.34	27.12	12.85	20.77
71020	14.20	18.19	28.17	14.54	22.77
72100	16.21	19.02	17.35	15.69	23.06
73510	15.55	16.15	3.86	13.03	20.01
73560	12.14	12.45	2.56	9.63	16.09
74240	30.37	30.43	0.19	26.84	34.50
74290	19.11	21.52	12.61	18.29	25.33
76091	28.54	30.35	6.36	25.31	36.40
76516	133.14	47.29	-64.48	41.34	54.10
76517	178.12	49.31	-72.32	41.76	58.21
76700	53.16	34.54	-35.03	29.42	40.55
90020-GP	39.74	59.47	49.64	53.74	65.81
90020-GS	38.06	56.37	48.11	51.13	62.15
90020-ENT	36.49	32.08	-12.08	26.72	38.52
90020-CAR	65.06	70.21	7.92	61.82	79.74
90020-DRM	36.20	54.42	50.32	47.13	62.83
90020-FP	39.12	60.99	55.91	54.99	67.65
90020-GAS	67.70	71.89	6.20	63.56	81.32
90020-IM	60.66	72.60	19.68	64.03	82.31
90020-NEU	70.66	87.03	23.17	74.30	101.95

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-14 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SERVICES WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90020-NES	56.99	78.95	38.53	68.42	91.10
90020-OBG	41.72	49.27	18.09	44.37	54.71
90020-ORS	42.90	57.50	34.03	52.03	63.54
90020-PS	37.76	39.46	4.51	32.22	48.33
90020-CTS	44.95	57.51	27.93	49.50	66.80
90020-URO	39.05	46.42	18.88	40.80	52.82
90060-GP	19.73	33.01	67.31	29.56	36.86
90060-DRM	23.94	31.79	32.79	28.23	35.79
90060-FP	20.16	33.64	66.88	30.07	37.64
90060-IM	24.75	38.92	57.26	35.27	42.95
90060-PS	23.18	23.42	1.06	18.67	29.39
90220-GP	47.28	64.26	35.92	57.57	71.73
90220-GS	50.89	62.16	22.14	55.93	69.08
90220-ENT	58.05	39.10	-32.65	31.72	48.19
90220-CAR	68.40	71.32	4.27	62.97	80.79
90220-DRM	63.61	67.50	6.11	59.14	77.04
90220-FP	46.26	69.21	49.61	61.44	77.96
90220-GAS	69.22	75.70	9.37	66.41	86.29
90220-IM	59.22	76.39	29.00	66.95	87.17
90220-NEU	76.06	89.33	17.45	75.93	105.10
90220-NES	63.39	74.61	17.70	64.27	86.61
90220-OBG	56.74	53.20	-6.24	47.53	59.54

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SERVICES WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
90220-OPH	57.07	65.33	14.47	58.44	73.03
90220-ORS	59.30	59.19	-0.18	53.49	65.49
90220-PS	62.80	36.17	-42.41	27.92	46.86
90220-CTS	60.81	54.99	-9.56	48.29	62.63
90220-URO	53.00	49.23	-7.12	43.89	55.21
90260-GP	21.05	35.22	67.32	31.94	38.84
90260-FP	23.27	35.55	52.77	32.22	39.23
90260-GAS	26.18	37.15	41.92	33.82	40.81
90260-IM	24.82	39.45	58.94	36.06	43.16
90292-GP	26.46	41.72	57.68	38.03	45.78
90292-FP	28.22	43.30	53.45	39.44	47.55
90292-IM	31.61	44.65	41.26	40.71	48.97
90620-GP	70.22	60.57	-13.74	54.65	67.14
90620-DRM	67.19	59.96	-10.76	50.71	70.89
90620-FP	67.48	63.43	-6.00	56.86	70.76
90620-GAS	85.87	77.33	-9.94	67.68	88.37
90620-IM	84.65	78.93	-6.76	68.87	90.45
90620-NEU	88.67	86.27	-2.71	73.48	101.27
90620-PS	60.91	40.19	-34.02	33.21	48.64
92004	35.48	56.33	58.75	50.72	62.55
92100	17.24	52.42	204.06	46.88	58.61
92557	36.97	30.56	-17.33	22.92	40.76

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: MEDICAL SERVICES WITH TOTAL TIME AND COMPLEXITY

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
93010	13.33	19.91	49.36	16.48	24.05
93300	68.56	44.74	-34.74	40.79	49.07
93307	95.97	51.15	-46.70	46.06	56.80
93320	80.40	52.79	-34.34	47.59	58.56
95819	38.62	37.26	-3.52	31.80	43.66
95860	78.89	64.74	-17.94	56.02	74.82
95900	76.04	54.57	-28.23	49.08	60.68

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the physicians' Practice Follow-up Survey.



REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SERVICES WITH PROCEDURE TIME, COMPLEXITY AND PRE/POST TIME

Descriptive Statistics

Variables	Sum	Mean	Uncorrected SS
INTERCEP	265.28962768	4.0195398134	1105.1603268
LTIME	72.707603019	1.1016303488	106.74622066
LSCOMP	203.95137421	3.0901723366	1100.1852316
LTIME245	405.44986776	6.1431798145	2612.4242583
LPRICE			

Variables Variance Std Deviation

INTERCEP	0	0
LTIME	.59720163445	.77278822096
LSCOMP	.40998951674	.64030423764
LTIME245	7.2298513392	2.688838288
LPRICE	1.8718894596	1.3681701136

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Prob>F
Model	3	105.28171	35.09390	132.744	0.0001
Error	62	16.39111	0.26437		
C Total	65	121.67281			
Root MSE		0.51417	R-Square	0.8653	
Dep Mean		6.14318	Adj R-Sq	0.8588	
C.V.		8.36980			

Parameter Estimates

Variable	DF	Parameter Estimate	Standard Error	T for H0: Parameter=0	Prob >  T	Standardized Estimate
INTERCEP	1	1.391099	0.49218848	2.826	0.0063	0.00000000
LTIME	1	0.958006	0.15957535	6.003	0.0001	0.54111381
LSCOMP	1	0.487818	0.16836278	2.897	0.0052	0.22829910
LTIME245	1	0.117774	0.03891785	3.026	0.0036	0.23145941

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-15 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SERVICES WITH PROCEDURE TIME, COMPLEXITY AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
11100	39.77	74.76	87.97	56.00	99.81
11402	69.96	140.36	100.65	114.52	172.03
11404	107.38	203.64	89.63	160.96	257.63
11441	60.36	171.29	183.76	134.37	218.35
11442	81.56	244.06	199.25	191.17	311.59
14060	523.57	821.22	56.85	654.56	1030.31
15100	406.56	777.67	91.28	557.92	1083.99
17000	31.18	73.22	134.79	53.56	100.08
19240	950.69	1751.75	84.26	1467.95	2090.42
20610	29.81	79.89	167.99	62.56	102.02
27130	2251.71	1941.41	-13.78	1606.92	2345.52
27135	2271.04	3343.06	47.20	2628.37	4252.09
27236	1140.42	1541.12	35.14	1298.00	1829.77
27244	1130.39	1322.20	16.97	1112.76	1571.06
27447	2196.35	1981.93	-9.76	1649.63	2381.17
30903	57.40	137.09	138.83	100.81	186.44
31535	294.67	153.19	-48.01	117.88	199.07
31575	108.54	80.36	-25.96	60.56	106.64
31600	328.52	294.04	-10.49	210.50	410.74
32480	1593.72	2236.90	40.36	1800.10	2779.68
33207	1010.33	664.21	-34.26	510.22	864.67
33208	1263.16	1098.17	-13.06	925.82	1302.61

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.





## REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SERVICES WITH PROCEDURE TIME, COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
33405	2894.79	3271.04	13.00	2502.66	4275.34
33512	3713.86	3523.80	-5.12	2625.51	4729.44
33513	3958.52	3700.52	-6.52	2764.22	4953.95
35301	1497.40	1635.08	9.19	1340.86	1993.86
43235	278.47	167.55	-39.83	135.99	206.43
43239	322.40	187.01	-41.99	151.42	230.96
44140	1152.12	2210.33	91.85	1824.02	2678.44
45300	35.85	91.56	155.45	73.67	113.81
45330	83.03	130.31	56.93	107.18	158.43
45360	197.46	192.65	-2.44	156.94	236.49
45378	382.56	355.80	-6.99	269.90	469.06
47600	798.49	1152.39	44.32	956.81	1387.95
47610	962.03	1862.29	93.58	1551.69	2235.06
49505	511.30	617.70	20.81	515.74	739.82
50080	1001.55	729.41	-27.17	484.63	1097.84
52000	92.58	84.41	-8.82	67.35	105.80
52005	155.05	156.73	1.08	126.36	194.40
52234	322.36	204.47	-36.57	165.38	252.79
52601	1037.76	874.28	-15.75	725.92	1052.96
53660	19.60	34.69	76.97	23.24	51.76
55821	1146.93	891.15	-22.30	718.43	1105.41
57520	263.97	71.73	-72.83	55.68	92.40

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## EXHIBIT B-15 (continued)

REGRESSION PARAMETERS AND PREDICTED AMOUNTS: SURGICAL SERVICES WITH PROCEDURE TIME,  
COMPLEXITY, AND PRE/POST TIME

CPT-4 CODE	ACTUAL CHARGE	PREDICTED AMOUNT	PERCENT CHANGE	CONFIDENCE LOWER	INTERVAL UPPER
58100	49.41	53.95	9.18	40.61	71.66
58120	250.39	151.41	-39.53	104.84	218.69
58150	920.97	1170.96	27.14	988.77	1386.73
58260	953.60	896.03	-6.04	755.77	1062.32
58265	967.06	1450.14	49.95	1223.03	1719.44
61310	1782.00	2320.74	30.23	1891.78	2846.98
61510	2097.95	4582.76	118.44	3500.29	5999.98
62270	57.14	158.58	177.52	129.28	194.53
63005	1464.23	2374.88	62.19	1950.27	2891.93
63030	1237.04	1581.94	27.88	1311.16	1908.63
66170	874.87	1036.54	18.48	781.66	1374.52
66920	1009.42	884.96	-12.33	678.89	1153.56
66940	978.47	804.87	-17.74	586.46	1104.62
66984	1546.25	1020.48	-34.00	745.65	1396.60
66985	942.70	682.85	-27.56	476.48	978.60
67036	1887.45	1482.58	-21.45	1161.29	1892.78
67107	1507.76	2268.54	50.46	1861.17	2765.07
67226	642.60	311.31	-51.55	222.38	435.81
69631	1134.60	850.24	-25.06	621.03	1164.04
93503	284.40	241.60	-15.05	193.88	301.08
93547	605.96	375.47	-38.04	283.65	497.01
93549	812.79	553.11	-31.95	394.77	774.95

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Procedure time and complexity estimates were calculated from the Physicians' Practice Follow-up Survey.



## APPENDIX C

## SENSITIVITY OF POTENTIAL PAYMENTS TO CHOICE OF METHOD

How different are the results obtained under the regression-based approach compared to those that might be obtained from a more traditional index-based approach? This appendix presents the results of a comparative analysis conducted for two specialties: orthopedic surgeons and internists. This work was originally presented in the Draft Final Report, December 7, 1987. Because of refinements to the methodology, the predicted amounts shown in Tables C-1 and C-2 will differ slightly from those presented in Chapter 5. Most importantly, the predicted amounts present here have not been adjusted upward to account for the tendency to under-predict values from a logged equation when the anti-log is taken.

Methods

The index-procedure approach was implemented as follows. We first scaled both time and complexity by dividing each estimate with that for a numeraire procedure (chest x-ray), essentially placing them on the same scale. Thus, based on orthopedic surgeons' reported estimates, for example, an initial office visit is 5 times longer than chest x-ray interpretation, but only twice as complex (refer to Table 3-2). The resulting values were then multiplied together, creating a relative scale of total physician effort. By simply multiplying, we implicitly give time and complexity both equal weight. As discussed, in Chapter 4, there is no a priori theoretical justification for how to weight these two dimensions. We use equal weights here, since this was the approach used by Hsiao and Stason, and Hsiao and colleagues in their earlier resource-cost based RVS work.

Once the scale has been constructed, the next step is to choose an index procedure, so that the relative values can be converted to dollars, as follows:

$$\text{Payment}_j = \text{CHG}_I * \frac{\text{RV}_j}{\text{RV}_I}$$

where

$\text{Payment}_j$  = potential Medicare payment for the j-th procedure;

$\text{CHG}_I$  = current Medicare allowed charge for the index procedure;

$\text{RV}_j$  = relative value for the j-th procedure on the time and complexity scale; and

$\text{RV}_I$  = relative value for the index procedure.



The choice of index procedure is inevitably arbitrary, but we can test the sensitivity of the index-based approach to alternative selections of an index procedures.

### Results for Orthopedic Surgeons

Table C-1 presents potential payments for 12 orthopedic procedures using the two approaches. First we show the actual charge and regression-based payments. We then display index-based payments for the same procedures using three alternative procedures as the index: total hip replacement; femoral fracture with internal fixation; and initial hospital visit. Using total hip replacement as the index, we see that all other procedures would increase dramatically over current allowed charge levels and well above payment levels predicted by either of the two regression approaches. Office and hospitals visits would rise five-fold, and secondary hip revision would more than double, increasing from \$2,271 to \$4,694. Percentage increases for other orthopedic surgical procedures would be considerably smaller, but still large in absolute terms.

In our earlier work (Mitchell et al., 1987), we argued that the index procedure should be one whose payment is believed a priori to be a reasonable reimbursement, given the physician effort associated with it. Since a number of policymakers have suggested that hip replacement itself is an overpriced procedure, then why use it as an index procedure? Our point here is that, absent some alternative methodology like the regression based approach, we do not know hip replacement is overpaid; we can only suspect it.

Use of the hip fracture (CPT code 27236) as the index procedure produces potential payments almost identical to those generated by the regression-based approach. This is not too surprising in retrospect, recalling that this procedure seems to be appropriately paid based on the regression methodology; its predicted price was very close to the actual allowed charge. Use of the hospital visit as an index, however, yields very different results, with the surgery being paid only a fraction of current charges. Payment for total hip replacement would be reduced 80 percent under this approach, for example, and femoral fracture by 69 percent. Reimbursement roll-backs of this magnitude imply a massive redistribution of physician income from surgical to medical specialists.

The most important point from table C-1 however, is that the potential payments calculated from an index-based approach vary dramatically as a function of the index procedure selected. Use of the regression approach allows us to make comparisons with an average procedure. The index-based





approach, on the other hand, requires extraordinary confidence in the procedure chosen as the index, and may be the policy equivalent of "putting all one's eggs in one basket."

#### Results for Internists

Table C-2 compares regression-based payments for the internists with the more traditional index-based approach. Three alternative index procedures are shown: ECG interpretation and report, follow-up office visit, and sigmoidoscopy. The use of ECG and sigmoidoscopy as index procedures produce similar results, with potential payments greatly increasing for all services, except the three most expensive diagnostic surgical procedures (colonoscopy, and the two upper GI endoscopies). Initial office and hospital visits and consultations would be reimbursed at a level of about 4-5 times greater than currently. By contrast, use of a follow-up office visit produces results very similar to those of the regression-based payment without surgical adjustments. Potential payments for all visits and consultations would increase, while those for all other services would be markedly reduced.

As with those shown for orthopedic surgeons, these results illustrate the wide range in potential payments depending upon the index procedure used. The choice of any one for actual reimbursement purposes would need to be rigorously defended by policymakers.



TABLE C-1

## SENSITIVITY OF POTENTIAL PAYMENTS FOR ORTHOPEDIC SURGEONS UNDER REGRESSION-BASED VERSUS INDEX-BASED PAYMENTS

	REGRESSION-BASED PAYMENTS			INDEX-BASED PAYMENTS		
	Actual Allowed Charge	Without Surgical Adjustment	With Surgical Adjustment	Hip Replacement As Index	Hip Fracture As Index	Hospital Visit As Index
Initial comprehensive office visit for a new patient (CPT-4 90020)	\$43	\$169	\$74	\$278	\$176	\$55
Initial comprehensive hospital visit (with history and examination) for a new or established patient (CPT-4 90220)	59	181	78	297	189	59
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	13	18	13	26	16	5
Interpretation and report (only) for a spine X-ray--lumbosacral, antero- posterior, and lateral (CPT-4 72100)	17	23	16	36	23	7
Interpretation and report (only) for a complete hip X-ray--unilateral, with a minimum of two views (CPT-4 73510)	16	15	12	24	15	5
Simple hip arthroplasty (total hip replacement) (CPT-4 27130)	2,252	1,300	1,378	2,252	1,430	449
Secondary hip revision (CPT-4 27135)	2,271	2,644	2,423	4,694	2,983	936
Total knee replacement (CPT-4 27447)	2,196	1,418	1,495	2,479	1,575	495
Femoral fracture with internal fixation (CPT-4 27236)	1,140	1,036	1,170	1,795	1,140	358
Intertrochanteric or pertrochanteric femur fracture with internal fixation (CPT-4 27244)	1,130	821	969	1,408	895	281
Hemilaminectomy for excision of a herniated disk and/or de- compression of a nerve root-- lumbar unilateral (CPT-4 63030)	1,237	1,118	1,258	1,958	1,244	391
Major joint arthrocentesis (CPT-4 20610)	30	56	121	90	57	18

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Simulated payments were based on procedure time and complexity estimates reported in the Physicians' Practice Follow-up Survey.



TABLE C-2

## SENSITIVITY OF POTENTIAL PAYMENTS FOR INTERNISTS UNDER REGRESSION-BASED VERSUS INDEX-BASED PAYMENTS

	Actual Allowed Charge	REGRESSION-BASED PAYMENTS		INDEX-BASED PAYMENTS		
		Without Surgical Adjustment	With Surgical Adjustment	ECG As Index	F/U Office Visit As Index	Sigmoid- oscopy As Index
Initial comprehensive office visit for a new patient (CPT-4 90020)	\$61	\$114	\$77	\$294	\$109	\$251
Initial comprehensive hospital visit (with history and examination) for a new or established patient (CPT-4 90220)	59	124	83	332	123	283
Intermediate follow-up office visit for an established patient (CPT-4 90060)	25	39	30	67	25	57
Intermediate follow-up hospital visit (CPT-4 90260)	25	38	29	68	25	58
Initial comprehensive consultation (CPT-4 90620)	85	130	87	358	132	305
Discharge hospital visit (on final day of a multiple-day stay) (CPT-4 90292)	32	49	37	92	34	79
Interpretation and report (only) for a chest X-ray with two views (CPT-4 71020)	13	13	11	17	6	14
Interpretation and report (only) for an ECG (electrocardiogram) (CPT-4 93010)	13	11	10	13	5	11
Diagnostic proctosigmoidoscopy (CPT-4 45300)	36	35	76	59	22	50
Diagnostic, flexible fiberoptic sigmoidoscopy (CPT-4 45330)	82	48	104	97	36	82
Diagnostic, fiberoptic colonoscopy 25 cm to splenic flexure (CPT-4 45360)	198	73	150	175	65	149
Diagnostic, complex upper GI endoscopy (including esophagus, stomach, and either the duodenum and/or the jejunum) (CPT-4 43235)	279	61	129	141	52	120
Upper GI endoscopy for biopsy (CPT-4 43239)	323	69	144	166	62	142

Source: Actual Medicare allowed charges were obtained from 1985 BMAD claims data. Simulated payments were based on procedure time and complexity estimates reported in the Physicians' Practice Follow-up Survey.



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